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238. 239. 241. 285-291. 1952: 20. 21. 47. 50-52. 55

Catalogue
1953

1973 - 2206

R. Zweifel

MS 158

Catalogue

6½ mi. NE Napa, Napa Co, Calif
Feb 1, 1953

1973 Ansides lugubris
1974 " "
1975 Contia tenuis
1976 " "
1977 " "
1978 " "

9.3 mi. NNW Monticello, Napa Co, Calif

1979 Ansides lugubris
1980 Bufo boreas (skeletonized)
1981 Contia tenuis
1982 " "
1983 " "

1.4 mi. E Vacaville, Solano Co, Calif

1984 Ansides lugubris
Aug 23, 1950
(Feb. 3, 1953)

Alamo Canyon, 2½ mi. SW Lena Blanca Camp,
Pajarito Mtns, Sta Cruz Co, Ariz

1985 Tantilla atriceps
(from stomach of no. 50485, Rana tarahumarae)

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel ~~Cat~~ 1953

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Catalogue

Feb. 15, 1953

2.5 mi. (by road) NNW Calistoga, Napa Co., Calif.

1986 Aneides flavipunctatus

3.0 mi (by road) NNW Calistoga, Napa Co., Calif.

1987 Gerrhonotus multicarinatus } skeletonized
1988 " "

1989 Aneides flavipunctatus
1990 " "
1991 " "

1992 Aneides lugubris
1993 " "
1994 " "
1995 " "
1996 " "

3 mi E, ½ mi. S Mt St. Helena, Napa Co, Calif.

1997 Ensatina eschscholtzii oregonensis

Feb. 22

Tree Poison Ck., 15 mi. ESE Parcines, San Benito Co., Calif

1998 Rana boylii
1999 " "
2000 " "
2001 " "

M. Jaeger

Catalogue

Vol. 22

Lone Rock Ck, 15 mi. ESE Lawrence, San Benito Co., Calif

2002 Rana boylii
2003 " "
2004 " "

San Benito River, 10 mi SSE Lawrence, San Benito Co., Calif.

2005 Rana boylii
2006 " "
2007 " "

For 33,

3½ mi N, 2 mi. S Pinnacles, San Benito Co. Calif

2008 Aneides lugubris
2009 " "
2010 Diadophis amabilis
2011 Ophisaurus fuscus

3 mi. S Pinnacles, San Benito Co, Calif.

2012 Aneides lugubris
2013 " "
2014 " "
2015 " "
2016 Cnemidophorus gularis comulosus & subsexlineatus
2017 Ammotrypane pulchra
2018 " "

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

1953 161

Catalogue

5 mi. NE Gilroy, Santa Clara Co., Calif.
Feb. 23

2019 Contia tenuis
2020 Coluber constrictor mormon

5½ mi NE Gilroy, Santa Clara Co, Calif.

2021 Thamnophis elegans atratus

Arroyo Mocho, 4½ mi SE Livermore,
Alameda Co., Calif.
Mar. 1, 1953

2022 Rana boylei
2023 " "
2024 " "
2025 " "

Arroyo Mocho, 10½ mi SE Livermore,
Alameda Co., Calif.

2026 Eumeces gilberti copeanus
2027 " " "
2028 Tantilla eisoni

Arroyo Mocho, 11½ mi. SE Livermore,
Alameda Co., Calif.

2029 Eumeces gilberti copeanus
2030 Cnemidophorus tigris
2031 Sorex ornatus
~~2032~~

R. Zweifel

1953

Catalogue

Rio Coatzacoalcos, 10 mi. up from Minatitlán, Veracruz, Mexico

Feb. 2

2032 Natrix rhombifera (coll. Sterling Bunnell)

Feb. 6

Tepotzlan, near Cuernavaca, Morelos, Mexico

2033 Anolis nebulosus (?) (coll S. Bunnell)
2034 " " (" " ")

March 23

2.2 mi. SW Copperopolis, Calaveras Co. Calif.

2035 Eumeces gilberti

Angels Ck, 1.2 mi. WSW Murphys, Calaveras Co. Calif

2036 Rana boylii
2037 " "
2038 " "
2039 " "
2040 " "

5.4 mi. NE Murphys, Calaveras Co. Calif.

2041 Ensatina eschscholtzi xanthoptica
2042 " "
2043 Aneides lugubris

R. Zweifel

1957 163

Catalogue

Mar. 23

State Hwy 4 at South Boundary, Calaveras Big Trees State Park, 4600', Calaveras Co., Calif.

2044 Rana boylii (coll. Wm. Reiner)

1 mi. S, 1 mi. E Columbia, Tuolumne Co., Calif.

2045 Aneides lugubris
2046 " "
2047 " "
2048 " "
2049 " "

April 4

2.6 mi. WSW Saratoga, Santa Clara Co., Calif.

2050 Rana boylii
2051 Gerrhonotus coeruleus

Bear Ck., 3 mi. NE Boulder Ck., Sta Cruz Co., Calif.

2052 Rana boylii
2053 " "
2054 Gerrhonotus coeruleus
2055 Gerrhonotus multicarinatus
2056 " "
2057 Coluber constrictor mormon
2058 Tamnophis gigas californiae

R. Zweifel

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Catalogue

April 4

2.5 mi. SSW Los Gatos, Santa Clara Co., Calif.

2059 Diadophis amabilis

April 18

Willow Ck, O'Neals, Madera Co., Calif.

2060 Rana boylei
2061 " "
2062 " "
2063 " "
2064 " "
2065 " "
2066 " "
2067 Coluber constrictor mormon

April 19

Big Creek, Fish Camp, 5100', Mariposa Co., Calif.

2068 Rana boylei
2069 " "

Merced River, 1.9 mi. E Indian Lodge, Mariposa Co., Calif.

2070 Rana boylei
(UK) 2070a
2071 " "
2072 " "
2073 " "
2074 " "

R. Zweifel

1953 165

Catalogue

April 19

Feliciana Ck, 2 mi. NE Briceburg,
Mariposa Co., Calif.

2075 Rana boylei
2076 " "
2077 Eumeces gilberti
2078 " "

0.6 mi. NE Briceburg, Mariposa Co., Calif

2079 Eumeces gilberti

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Catalogue

April 25

Sequoia Lake, 5200', Fresno Co, Calif

2080 Bufo boreas
2081 Rana aurora
2082 " "

2 mi. WSW Badger, Tulare Co, Calif

2083 Eumeces gilberti
2084 Masticophis lateralis

6 mi SW Dennett Springs, Kern River Canyon, Kern Co, Calif

2085 Rhinocheilus lecontei

April 26

~~2086~~ ?
2. 6 mi SSE Fairview, Kern River Canyon, Tulare Co, Calif.

2086 Crotalus tigris

Salmon Creek, Kern River Canyon, 2½ mi SE Fairview, Tulare Co, Calif

2087 Rana boylii
2088 " "
2089 " "
2090 " "
2091 " "
2092 " "

R. Zweifel

April 1953

Catalogue

April 26

Ponds for Meadow, 3 mi SW Johnsondale, Tulare Co., Calif

2093 *Hyla regilla*
2094 *Rana aurora*
2095 " "
2096 " "
2097 " "
2098 " "
2099 " "
2100 " "
2101 " "
2102 " "
2103 " "
2104 " "
2105 " "
2106 " "
2107 " "
2108 *Rana aurora* (aurora of a tadpole)
2109 *Ensatina eschscholtzii platensis*
2110 *Gelopsoma gracioso*

Kern River Canyon, 6 mi. SW Democrat Springs, Kern Co., Calif.

April 27

2111 *Eumeces gilberti*

R. Zweifel

Catalogue

Tunnel Canyon, Tehachapi Mtns, Tejon Ranch,
Kern Co., Calif

April 27

2112 Eumeces gilberti
2113 " "
2114 " "
2115 " "
2116 " "
2117 Uta stansburiana
2118 " "
2119 " "
2120 " "
2121 " "
2122 " "
2123 " "

Tejon Ranch, 6½ mi E Wheeler Ridge,
Kern Co., Calif

2124 Scaphiopus hammondi "
2125 " " (series of 4 larvae)
2126 Bufo boreas "

Tejon Ranch, 7 mi E Wheeler Ridge,
Kern Co., Calif

2127 Uta stansburiana
2128 " "

R. Zweifel

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Catalogue

8 mi. S Mojave, Kern Co., Calif.

April 28

2129 Uta stansburiana

2130 " "

2131 " "

2132 " "

1 1/2 mi. W, 3 1/2 mi. N Mt. Pittnick, Kern Co, Calif

2133 Eumeces gilberti

5 mi. E, 4 1/2 mi. N Pozo, San Luis Obispo Co., Calif.

2134 Masticophis lateralis

2135 " "

2136 Hypsiglena torquata

April 29

San Juan Creek, 1 1/2 mi. W Shandon, San Luis Obispo Co, Calif

2137 Anniella pulchra

3 mi. W, 5 mi. S Shandon, San Luis Obispo Co, Calif.

2138 Batrachoseps attenuatus

R. Zweifel — 1953 170

Catalogue

Lyncean Camp Ground, Little Rock Creek,
Los Angeles Co., Calif.

May 1

2139	Rana sierrae muscosa		
2140	"	"	"
2141	"	"	"
2142	"	"	"
2143	"	"	"
2144	"	"	"
2145	"	"	"
2146	"	"	"
2147	"	"	"
2148	"	"	"
2149	"	"	"
2150	"	"	"
2151	"	"	"
2152	"	"	"
2153	"	"	"
2154	"	"	"
2155	"	"	"
2156	"	"	"
2157	"	"	"
2158	"	"	"
2159	"	"	"
2160	"	"	"
2161	"	"	"
2162	"	"	"

R. Zweifel

Catalogue

Lyons Camp Ground, Little Rock Creek,
Los Angeles Co., Calif.

May 1

2163 Hyla arenicolor
2164 " "
2165 " "
2166 " "
2167 Hyla regilla
2168 Microhylia lateralis

Soledad Camp Ground, Santa Clara River,
Soledad Canyon, Los Angeles Co., Calif.

2169 Hyla arenicolor
2170 Rana aurora
2171 " "
2172 " "
2173 Thamnophis elegans hammondi

Little Rock Creek at Bear Mountain Creek,
Los Angeles Co., Calif.

2174 Rana aurora aurora

May 2

Two miles S. Woodland Hills,
Los Angeles Co., Calif.

2175 Pituophis catenifer annectens

R. Zweifel

1953

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Catalogue

May 2

Topanga Canyon, 400', Los Angeles Co., Calif.

2176 Rana aurora draytoni
2177 Hyla arenicolor
2178 Microphis lateralis

May 3

Y-Oso Public Camp, Oso Creek,
Santa Barbara Co., Calif.

2179 Rana aurora draytoni
2180 Hyla arenicolor
2181 " "

Reservoir Canyon, 500', 2 mi. E San Luis Obispo,
San Luis Obispo Co., Calif.

2182 Rana aurora draytoni
2183 Rana boylei

4 mi. NW Colona, El Dorado Co., Calif.
May 1, 1953

2184 Rana boylei (coll. Wm. Reiner)

Magalia, Butte Co., Calif.
May 2

2185 Rana boylei (coll. Wm. Reiner)

R. Zoufal

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Catalogue

1 mi. SE Dogtown, Shasta Co., Calif.

May 3

2186 Rana boylii (coll. Wm. Pierce)
2187 " " (" " ")
2188 " " (" " ")
2189 " " (" " ")

4 mi. WSW Bella Vista, Shasta Co., Calif.

2190 Rana boylii (coll. Wm. Pierce)

May 10

Lovington Trout Ponds, 4800', Calaveras Co., Calif.

2191 Rana aurora
2192 " "
2193 " "
2194 " "
2195 " "

State Hwy. 4 at South Boundary, Calaveras Big Tree State Park, 4600', Calaveras Co., Calif.

2196 Rana boylii

Moran Ck., 4000', 1½ mi. E, 3 mi N Avery, Calaveras Co., Calif.

2197 Rana boylii
2197a

R. Zoufal

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Catalogue

May 10

San Antonio Ch., 2000', 5½ mi. W. Long, Calaveras Co., Calif.

2198 Aquilegia longissima
2199 " "
2200 Arabis multicaulis
2201 " "
2202 Thermopsis chilensis condia

May 17-18

Sag Hor Ch., Nevada Co., Calif.

2203 Rosa (det. Ed Hoffman)
2204 " " (" " ")
2205 " " (" " ")
2206 " " (" " ")
(3 tadpoles - 2200)

October 4

Dorrington, 4100', Calaveras Co., Calif.

~~2207~~ Rosa mucronata (skeletonized)
~~2208~~ " " (")
~~2209~~ " " (")
~~2210~~ " " (")
~~2211~~ " " (")

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Journal
1953

R. Zwiefel

Jan 11, 1953

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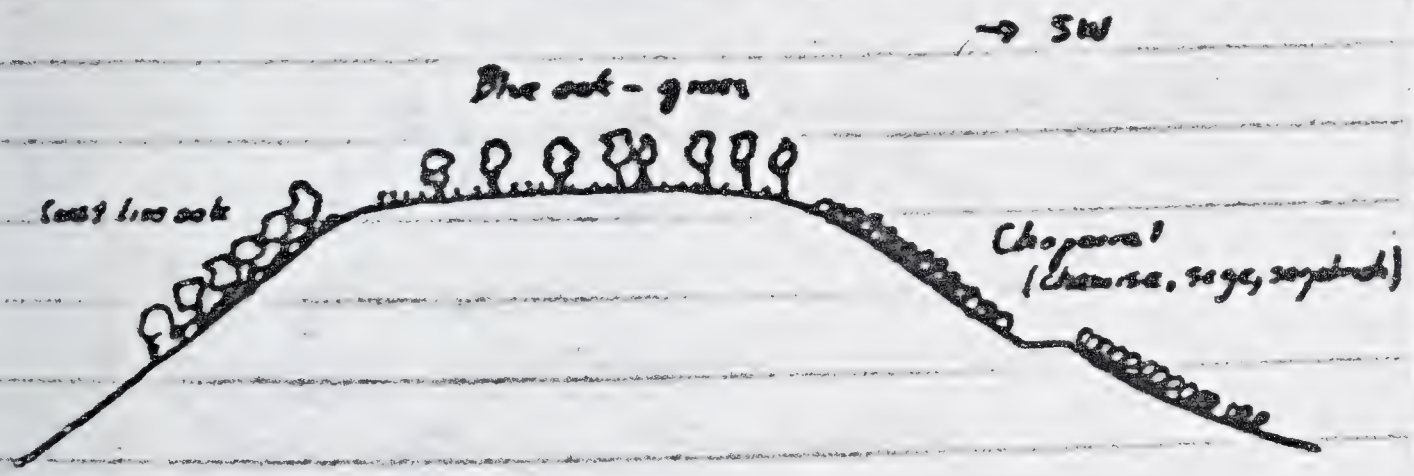
Cachanga Road, Tularcitos Ridge, Monterey Co, Calif.



Collected with Paul Anderson. Most collecting was in strip of blue oak-grassland on top of ridge. Found 4 *Eumecia chitonius*, 1 *Sonkarotus multicarinatus*, 2 *Anniella pulchra* and 5 *Batrachoseps attenuatus*. Anderson got two species and in addition *Sceloporus occidentalis* and *Gerrhonotus rugiceps*. All were taken low beneath & within log except for one adult *Anniella* which was under a rock.

R. Ingersoll Feb. 15, 19 176

2.5 mi NNW Calistoga, Napa Co, Calif

Ed Greene, Jerry Cook and I spent about 1½ hours at this locality

1 Lodophis amabilis
6 Eumeces skiltonianus
2 Elgaria multicarinata
3 Coluber constrictor
10 Aneides flavipunctatus
2 Aneides lugubris

Most of the specimens were found beneath log and stone in grassy hillside. Common trees are black oak, digger pine, douglas fir, coast live oak, madrone and madrone. The cover varies from 100% to 0%, probably due to cutting in the past. Mongonita & Elgaria daredjiadza are common in the underbrush.

9 mi NNW Calistoga, Napa Co, Calif

4 Diadophis amabilis
8 Eumeces skiltonianus
6 Sceloporus multicarinatus
3 Aneides flavipunctatus (+ other sp.)
5 Aneides lugubris (+ other sp.)

Similar to above locality

R. Zweifel Feb. 22, 1953 177.

Little Panoche Creek, Fresno Co., Calif.

On April, 1939, Dr. A. H. Miller collected two adult *Rana boylii* in this creek, 2 mi. N Mercy Hot Springs. At the present time, the streambed at this point is absolutely dry. Downstream about two miles the stream appears to be permanent. There is a thick growth of willows bordering the stream, giving way at places to *Baccharis viminea* and cattails. This area does not have the open sandy stream banks usually characteristic of streams inhabited by *Rana boylii*, nor were any frogs but *Hyla regilla* found.

At the reported *boylii* locality upstream there were no trees, the only conspicuous vegetation being *Atriplex* and grass grazed short by the sheep.

Probably after exceptionally wet winters, populations of frogs may temporarily become established here in the semi-desert, but the habitat is certainly marginal. There are three or four small creeks in the drainage of Little Panoche Creek which probably have *Rana boylii* in their headwaters.

Uta stansburiana was the only reptile seen. These were common.

R. Zeiffel

Feb. 23, 1953.

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Pinnacles National Monument, San Benito Co., Calif.

Two hours hunting by Bill Riemer, Ernie Kerlikom, Jerry Cook, Jerry Klotzgard myself yielded only one Dialoplus and a few Anides lugubris. This was in the vicinity of the northernmost picnic grounds.

One mile outside of the park boundary (3 mi. S Pinnacles P.O.) was spent ~~two~~ about one hour and found 13 Anides, 1 Ensatoria, many Betrachoge, 4 Annilla galchra, 1 Eumecea gilberti and 1 Contra tenuis. At this same spot last evening Dr. Stebbins found Anides, Ensatoria and Dialoplus. Bill Riemer got an Annilla nearby as we were gathering wood about sunset yesterday.

R. Zweifel Mar. 1, 1953 179

Journal

1503.1 Leave Campus 8:27 AM
549.8 Livermore 9:32
546.4 Junction - Arroyo Hocho 9:36
549.0 2 R. boylii - habitat photographed - #1
549.6 " " "
554.7 1 Tantilla eiseni : hab. photo #2
2 Eumeces g. varieglosus
1 E. g. californicus (cook)
2 Anniella pulchra (cook)
x Tritaeniatus torosus
x Batrachoseps attenuatus

562.1 Bridge
566.8 County line — turned around
571.2 " "
580.4 1 Sorex
2 Eumeces (1 Cook)
1 Cremidophorus
2 Anniella
591.5 Jct.

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K. Zweifel

Mar. 23 180

Journal.

389.7 1 Eumeces, 2 Sceloporus, 1 Masticophis lateralis (DOR) 9:20 AM, Hwy. 4
Skink under shale in black ant nest
Open stand of digger pine & blue oak
(2.2 mi SW Copperopolis, Calaveras Co.)

392.4 Copperopolis (Angels Cd, 1.2 mi NNW Murphys, Calaveras Co.)

410.4 Rana boylii

411.6 Murphys

417.0 1 Eumeces, 5 Aneides lugubris, 2 Ensatina
2. xanthoptica (5.4 mi NE Murphys, 3300', Calaveras Co.)

431.0 Camp Connell
water 5.8°C snow up to 2' deep.

435.1 South bridge, Clarence Park
Water 7°C Rana boylii, Bufo boreas

467.5 Clarke place (1 mi S, 1 mi E Columbia, Tuolumne Co.)
? Aneides lugubris

R. Zweifel

Mar. 23, 1953

Calaveras Co., Calif.

We visited Camp Connell to see this Rana aurora locality under late winter conditions. The stream temperature was 5.8°C. A nearly continuous snow cover was present, up to two feet deep in spots. According to topo. sheet (Big Trees Quadrangle), the stream is San Antonio Creek. If the topo. map is correct, the head of this stream is only about a mile above Camp Connell.

In the small creek which crosses State Highway 4 at the south boundary of Calaveras Big Trees State Park, Bill Bremer collected an adult Rana boylii. This is about 3¼ miles air line from Camp Connell, at nearly the same elevation (4600') and in the same drainage. It should be possible to find the zone of contact or overlap between these two species by working San Antonio Creek.

R. Zweifel April 4, 1953

Journal

With Bill Brown, Alan Jordan and the Rountree, left Berkeley at 8:00 AM and arrived at Saratoga, Santa Clara County, at 9:25 (travel via Bayshore highway).

2.6 mi. WSW Saratoga, Santa Clara Co., Calif.

Our first stop. Thick broad-leaved forest. Prominent trees on the forest are madrone, bay, big-leaf maple, tan oak, coast live oak, Douglas-fir and redwood. Poison oak is particularly abundant here. Chaparral present includes *Adenostoma* and *Ceanothus*.

The stream (alders & sycamores) is about 10-15 feet wide in most places with some exposed rock & gravel banks and deep pools. Water temperature 9.4°C. A single large adult *R. aurora boylii* was taken here. Also present were *Ancides flavipunctatus*, *Triturus torosus* and *Hesperotus coeruleus*.

East Waddell Creek 1 mi. SW Big Basin Park Headquarters, Santa Cruz Co., Calif.

Working downstream from the park sewage disposal plant. Stream 8.8°C. No frogs seen. *Triturus torosus* and *T. granulosus*

R. Zweifel April 4, 1953

Journal

food in ponds beside the stream but not in the main stream. Absence of algae or moss on rocks below the present water level suggests possibility of chemical pollution from sewage disposal plant. Ensatina eschscholtzii, Aneides flavipunctatus, Eumeces skiltonianus, Hyborhynchus coerulens and Lutjanus occidentalis also present.

Bear Creek, 3 mi. NE Boulder Ck., Santa Cruz Co., Calif.

Two Rana boylii taken and another seen. Others

1 Ensatina eschscholtzii (not kept)
7 Aneides lugubris (others not kept)
x Taricha torosa
2 Taricha granulosa
1 Salvadora occidentalis
1 Eumeces skiltonianus (others escaped)
2 Hyborhynchus coerulens
2 Hyborhynchus multicinctus (others not kept)
1 Pituophis catenifer
1 Coluber constrictor mormon
2 Sceloporus graciosus californiae

All terrestrial animals were taken in grassy clearings in the border redwood forest (live oak, madrone, douglas-fir),

N. Jewett April 4, 1953

Journal

beach and within water large and wide beach. Some of the bigeye were seen out of cove. 3-4 PM.

23 mi. SSW to Pedro, Santa Clara Co., Calif.

Oak forest. – both black oak and coast live oak.

3 Cowrie shellfish, 3 Balanus cylindricus, 1 Crab hyptia, 1 Dalcylia crabilis.

R. Zweifel April 25, 1953

Sequoia Lake, 5200', Fresno Co, Calif

Surrounded by yellow pine, white fir, incense cedar, sugar pine forest. Much of the lake margin is choked with grass. Hyla regilla, Bufo boreas and Taricha t. sierrae are present here.

The Taricha were at the point where a stream enters the east side of the lake. Some were in the lake (16° C at the edge), others in the stream (8.5°C). No Rana seen in the lake.

About 1/10 mi. upstream from the lake, two Rana sierrae were taken from an isolated overflow pond about 40' from the stream. The pond is about 10' long, 4' wide and 18" deep, temp 10.5°C. A heavy growth of willows surround it.

Hume Lake, Fresno Co, Calif

Typical Transition-zone forest. Many bullfrogs in lake - no others. Investigation of a large & a small stream flowing into the lake showed no R. aurora. Keith saw a bullfrog in the small stream.

The road into Hume Lake was open and entirely free from snow (only a few patches on the hillside), quite a contrast to this time last year when the snow was up to

April 25

night for stay at Hobo Hot Springs.

At the point where a stop-gap dam crosses Hwy. 65 about one mile south of Porterville, Tulare Co. Harvey collected a small Crotalus mitchellii pleteria. No frog was found.

We followed Highway 65, and on the oak woodland 2 mi NW Porter, Tulare Co. I found a striped racer and an Eumeces gilbert beneath logs.

The more collecting was done until the evening. We drove south and worked down near the mouth of the Kern Canyon and then after dark drove to Hobo Hot Springs to camp. The only snake (except a gopher snake) was a DOR Rhinocheilus 6 mi SW Lemoore near the Springs. A Bufo boreas found on the road near Hobo Hot Springs had a BT 13.4°C

April 26

Left Hobo Hot Springs this morning to drive up the Kern River Canyon. Opposite (all) Kernville a fresh DOR Masticophis lateralis was picked up. It had just been hit at about 9:00 AM. The hillsides at this spot are rather barren and rocky with only very scattered digger pines and junipers.

Just over the Tulare Co. line 2.6 mi S Bodie Camp 3, Keith caught a Santa Cruz rigilia on a rotten digger pine stump.

R. Zweifel

April 26

1.9 mi. N Public Camp 3 a large adult Cremidophorus tigris was found. This is in digger pine - live oak woodland. At Salmon Ck, 2½ mi SE Fairview Rana boylei were found to be common - 6 were collected (no specimen account).

We stopped for lunch at Limestone Cliff Public Camp, 2.7 mi. up the road from Pasco Roads End P.O. and then drove on up the road to Johnsondale. 2.1 mi past Johnsondale we turned off on the road to Beach Joe Meadow, which was 3.5 mile farther on.

Rana aurora was abundant here. Hyla, Batrachoseps, Ensatina and Aneloporus gracious also were collected. I found a Batrachoseps beneath the bark on a white fir log. An Ensatina was similarly located on another log.

Returning from French Joe Meadow, we looked for frogs on Bear Creek and South Creek but found none.

We camped at Limestone Cliff Public Camp, 2.7 mi. N Pasco Roads End P.O., and investigated the cliff and scarp as a possible site for Hydromantes, but with no success. This is in digger pine - oak association. A striped racer seen on the road here escaped.

R. Zweifel

April 27

After two days of fairly good weather, we were awakened at dawn this morning by rain. No further collecting was carried on in the vicinity of the camp, although a few stops were made on the lower Kern Canyon on the way out. We obtained Batrachoseps and Eumeces gilberti, and Keith got a Diploglossus at Cow Flat Creek.

Keith had made some arrangements with the Tejon Ranch people to collect on the ranch, so we drove to the ranch.

At the ranch office it was suggested that we try Tunnel Canyon. We took the dirt (at present, mud) road to the mouth of Tunnel Canyon and hiked up the canyon. Our collecting, during intermittent rain, yielded 20 Eumeces gilberti and 7 Uta stansburiana, all found beneath rocks. The shaded canyon wall has valley oaks and blue oaks in open stand over grass.

Driving back down the road we were struck by two very heavy thundershowers and proceeded to get stuck in the mud. We got out with the aid of wired on, too small tire chains. About sundown, while working on the mired truck, I heard a Scaphiopus calling. Keith found one on the road.

Being thoroughly soaked and mud-covered, we treated ourselves to a Motel

R. Zonifel

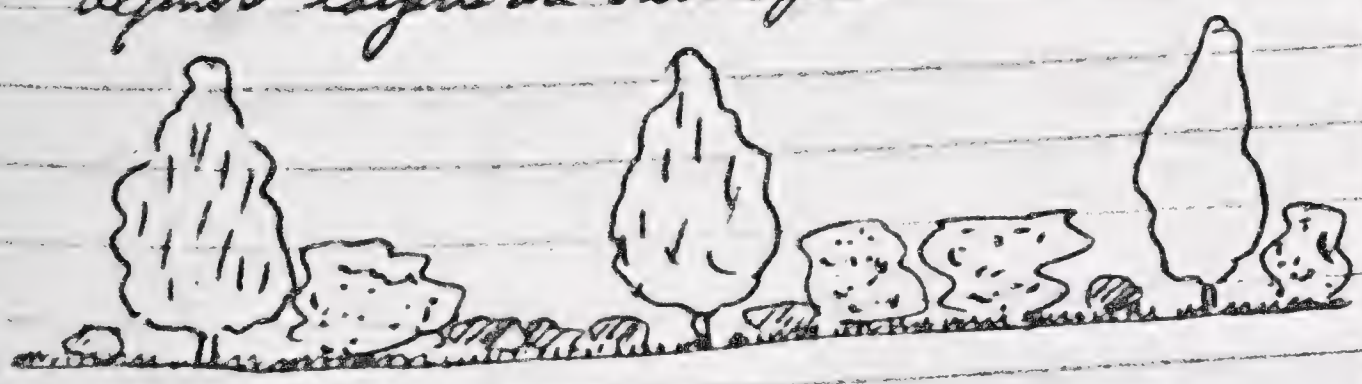
April 27.

but returned after dark to collect three more Diaphrogiria (see species account).

April 28

This morning we drove through Maricopa and up the road to Mount Abel, returning to highway 349 by way of Quatal Canyon. The hillsides up as far as the National Forest Boundary are grassy, giving way to Pinon-juniper forest inside that boundary.

The upper part of Quatal canyon is relatively heavy pinon-juniper forest. As this opens up down canyon ~~the~~ four defined layers are developed:



The highest pinon, the next juniper and scrub oak, the third herbaceous (Cam Chrysothamnus, etc.), the last grassy. Locally there are stands of Yucca whipplei forming another layer.

Where the pinon-juniper is thickest, there is no grass or herbaceous vegetation — merely pine duff.

A few Uta stansburiana on the grassy area on the Mount Abel road near the

April 28

only opinion obtained this morning.

In the afternoon we drove to McKittrick and went on State Hwy. 178. I got a Eumeces gilberti at the summit of the road on the Temblor range in ponderosa-live oak woodland.

Navajo Creek in central San Luis Obispo County was investigated as possible Rana boylii habitat, but didn't look suitable. An area of two or three acres scattered with old boards and pieces of tin was searched and yielded three striped racers, a Hypsiglena and a Eumeces skiltonianus. This was 5 mi. E and 4½ mi. N Pozo. Digger pine and live oak are on the hillsides, sycamore and willows in the wide canyon bottom.

Tonight's camp is at Queen Bee Camp, about 7 mi. ENE Pozo in the chamise chaparral.

April 29

The weather yesterday was by this trip standard rather good, there being some sunshine, but again this morning we were awakened by rain. Last night trap line (about 50 traps) gave Perognathus californicus, P. mamilatus, Perognathus californicus and Dipodomys.

We took the road from La Panza Ranch to Shandon via Creston, obtaining Ammella near Shandon and Batrachoseps southwest of there (no species account).

R. Zweifel

1953 **191**

April 29th

We went out again to Hwy 33 and north to Coalinga, then west on 198. Thus Eumeces gilberti was taken beside a stream in blue oak woodland in Kern County near the Monterey County border. No more collecting was done. We returned to Fresno.

April 30.

Drove from Fresno to Woodland Hills. Lots of new snow on the Tehachapis from the storms of the last few days.

May 1

Collected frogs (R. aurora, Hyla arenicolor, H. regilla) and Masticophis lateralis at Sycamore Camp Ground, Little Rock Creek, Los Angeles County.

Returned home via Soledad Canyon. Stopped at Soledad Camp Ground to look for Rana boylii, but found none. The stream is 6' - 10' wide and seldom over 1' deep - more often 6". There are very few rocks even as big as 6" diameter. The bottom is sandy. There are considerable stretches of exposed sandy bank but also long areas where the willows and Baccharis grow down to and into the stream.

Three Rana aurora, one Hyla arenicolor and a Thamnophis elegans hammondi were taken here. The garter snake was

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

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Journal

May 1

made to disgorge a cyprinodont minnow about 3" long which it had eaten

May 2

Drove to Topanga Canyon, Santa Monica Mountains, Los Angeles County. Two miles south of Woodland Hills a live Pituophis was picked up on the road about 11:00 AM.

I collected in the canyon at an elevation of about 400'. Tritaenia were scarce. I saw only seven in the stream and caught six of these. A striped racer was caught in the canyon bottom. Also a single Rana aurora and one Hyla arenicolor. Others were seen.

May 3, 1953

Santa Barbara Co., Calif.

Attempted to go to Indian Creek, where R. boylii has been taken, but the road was closed. Collected in at Y-Oso Public Camp, Oso Creek. Found one Rana aurora (saw two others) and two Hyla arenicolor. Stream in chaparral canyon. Sycamores & live oaks along stream.

Looked for frogs along the Santa Ynez River in the general vicinity of Mono Public Camp, and upstream almost to Santa Ynez Public Camp. Only frogs seen (none caught) behaved like aurora.

R. Zweifel

Journal

May 3

Six miles south of Santa Maria in rolling grassy hills with no trees (native) at all, a Microtyphlops lateralis was found DOR. A few patches of sagebrush are probably indicators of the native vegetation.

Reservoir Canyon, 2 mi. E San Luis Obispo, San Luis Obispo Co., Calif.

Searched the main stream in the cañon without finding any amphibs. 1.2 mi from the highway a tributary stream enters. In this stream I collected six Taricha torosa, 1 Rana aurora and 1 Rana boylii. Other frogs of both species were seen.

This stream was about 4' wide and 6" deep, except where there were pools 1' or more deep and up to 3' wide. The Taricha were in the pools.

This is in the chaparral belt, with live oaks and sycamores in the canyon. The poison oak here is the luxuriant bottom. The poison oak here is the luxuriant bottom. It overhangs the stream in great canopies.

R. Zweifel

Sept 26, 1953

Left Fresno at 10 AM with Keith Morey in route to the east side of the Sierra Nevada. We traveled via the Kern River Canyon and Walker Pass to Inyo Co.

Stopped at the Cow Flat Creek locality on Kern River Canyon. 100 yards up the road from Cow Flat Creek there is a spring which runs at the toe of a small cascade down the steep rock face. Under rocks at the foot of the fall Keith found 8 adult Batrachoseps and also some smaller ones. These appear to be B. attenuatus, not the same as the undescribed form which occurs on the talus slides along Cow Flat Creek.

We arrived at Tom Pine in the late afternoon and drove up the creek. Hunted a little along the creek and set up camp at Tom Pine Campground, 7 mi W Tom Pine, Inyo Co., Calif.

Sept. 27

The creek is fast flowing and though seldom more than 6' wide, is often 2 or 3' deep and in a few wider spots has pools up to 4' deep. The stream flows in a step-sided depression 20-30' wide and this in turn is set in a similar shaped depression some 150 yards wide and 70' deep. As a result of this double recessed position and more particularly because of the dense riparian vegetation, very little direct sunlight reaches the creek.

Rocks in the creek average 1' or more in diameter. The banks are for the most part undercut and

R. Zweifel

1953
195

Tree Pass Ck., 7 mi W Tree Pass, Inyo Co., Calif.
Sept 27

mossy. A large shrub or small tree (Prunus?) is most abundant along the creek. Also present are an occasional alder and pinon and a few willows. Roses are abundant and creek dogwood much less common. The belt of riparian vegetation is seldom more than 20 or 30' wide, measured from one side of the stream to the other.

Away from the stream, Artemisia tridentata and Chrysothamnus are the dominant plants.

Water temperature 6.6°C. From the standpoint of general habitat conditions (considering both the low water temperature and deeply shaded stream bank), this appears to me to be very sub-optimal Rana boylii habitat. No frogs were found.

Last night trapping yielded Peromyscus maniculatus, P. crinitus and Dipodomys panamintinus. Sulcaloma occidentalis was seen this morning.

Drove up to Whitney Portal, arriving there about noon. Elevation 8370', Jeffrey & lodgepole pine, white fir. There is a small dammed up lake here; could find no frogs in it. A feather-edge temperature away from the stream inlet was 6.4°C. One of the streams flowing into the lake was 5.5°C.

We investigated a small cave by a waterfall as a possible Hydromantes site, but could find no salamanders.

Sulcaloma occidentalis was seen all along Tree Pass Creek when out of the mountains.

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R. Zwinfel

1953
196
Sept. 27

Tree Pine Creek, 7 mi. W Tree Pine, Orange Co., Calif.

Big Pine Calif

Sept 27

As we left the mountain coming down from Whitney Portal, a heavy storm was soon breaking on the range just to the north of us. We had intended to go up to Kearsarge pass, but since this seemed to be the center of the storm, we continued on north.

Stopped at Big Pine Creek to look for frogs again with no success.

Drove on to Bishop and thence up to Tom Sabrina, 9100'. We have camped tonight on a public camp near nearby North Lake, another dammed up body of water.

Shortly after dark I spotted a small owl sitting on from a pine tree and attempted to get some response from it by trying assorted screeches & yipping out whistles. The owl made no vocal response but merely flew from tree to tree above my head and finally made a series of dives sufficiently close to my head (3') that I was willing to stop my annoyance.

Sept. 28

No frogs or tadpoles in the streams or lakes here.

Trapped chickaree, ~~Zapus~~, Microtus longicaudus, Peromyscus maniculatus & Sorex ~~[illegible]~~

Drove from the Sabrina locality to Benton, Mono Co., where we set out trap lines. Trap

R. Zweifel 1953 198

~~Sing~~ Mono Co, Calif

Sept 29, 19

Last nights trapping gave Microdipodops, Onychomys, Perimyscus, Dipodomys.
4 mi. N Benton, Mono Co., we found a DOR Masticophis taeniatus. This was on a flat area of sagebrush and Ephedra between the White Mountains to the east + a range of hills to the west.

Drove back to Fresno via Tioga Pass. Looked for frogs in Lee Vining Creek with no luck. Collected frogs + toads (R. pipiens + Hyla regilla) near Tioga Pass

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Species Accounts
1953

R. Zweifel

Batrachoseps attenuatus

3 mi. W, 5 mi. S Shandon, San Luis Obispo Co., Calif.

2138 AZ

April 29, 1953

Under a board near a cattle tank (dry). Rolling, grassy hills with the very occasional valley oak - none at collection site (but one old stump). A most unlikely looking site for salamanders. Probably there was a spring here to feed the cattle tank, but it is dry now.

H. Zimfel

Mar. 23, 1953

200

Ensatina eschscholtzii xanthoptica

4 mi. S.E. of Murphys, 3300', Calaveras Co., Calif.

2041-3, R2.

Yellow pine forest with black oak, incense cedar, canyon oak and a very few digger pine. Salamander found under yellow pine log.

1953

. Zweifel

Triturus torosus

Trabuco Guard Station, Trabuco Canyon, 1500', Orange County, Calif.

August 16

Relatively little stream flow, mostly disconnected pools. Larvae were present in the pools, and small transformed individuals under rocks by the water. I was shown an adult Triturus by some Boy Scouts; they said adults were common in the pools, but I was unable to find any.

After collecting adult Triturus in Boulder Creek, San Diego Co., in August, I had assumed that they waited for the summer rains in order to leave the water. At least one or two heavy rains are a regular summer occurrence in the Cuyamaca region. But such conditions do not obtain in the Santa Anas. Perhaps the heavy summer fogs moisten the region sufficiently to permit the adults to leave the water.

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1953

. Deifel

Bacn aurora drayton

hino Guard Station, Trabuco Canyon, 1500', Orange Co.,
Calif.

August 16

04-5 EZ

Little stream flow, mostly disconnected pools.
lers, sycamores.

Zweifel

Feb. 1, 1952

Rana b. boylii

9.3 mi. NNW Montidello, Napa Co, Calif.

2:00 PM. Sunning on rock in stream, air 1 cm over rock 19.6°C, water 13.2°C. Stream average 8' wide, 6-8" deep. No typical riparian vegetation surrounding hillsides with blue oaks & digger pine. Heavily grazed, which may account in part for barren aspect of stream edge.

Frog not common — Ernie Karlstrom took 5 (only one adult).

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R. Zweifel Feb. 22, 19 204

Rana boylii

Tres Pinos Creek, 15 mi. ESE Paicines,
San Benito Co., Calif.

Digger pine - blue oak. Stream average 7' wide, 6" deep. Sandy bottom, rocks on bed average 7". Water 13.5°C. Berberis vimnea and Salix thickets by stream - no riparian trees. Seen small adults collected between 3:30 and 4:00 PM.

Bufo boreas & Hyla regilla also present.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Feb. 22, 1953

205

Rana boylii

San Benito River, 10 mi. SSE Paicines,
San Benito Co., Calif.

Two frogs taken here and several others seen. Water 14.4°C.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55.

R. Zweifel Mar. 1, 1953 206

Rana boylii

Arroyo Mocho, 4½ mi SE Livermore, Alameda Co. Calif.

9.45 AM – large adult ♀, water 9.4°C
10:00 AM – adult ♀ – water 9.0°C

549.0
Stream average 10' wide, 8" deep – some pools up to 2'. Watercourse lined with Baccharis vimineus. Valley perhaps ¼ mile wide at this point. Sycamores scattered along stream, occasional valley oaks elsewhere. Practically no shading on stream

Arroyo Mocho.
549.6
Water 10.5°C (young frogs, not saved).

Frogs very scarce today throughout the arroyo. Snow fell last night on nearby ridges and temperature was probably close to freezing last night. Rain & later snow fell as we left in the late afternoon.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Mar. 23, 1953

20

Rana boylei

410.4

Angels Ck, 1.2 mi. ~~NNE~~ WSW Murphys, Calaveras Co, Calif.

2036-40, R2

Prop common but difficult to catch due to high water and rocky stream bottom. Water 8.8°C. Stream averages 8' wide. North facing hillside with thick growth of digger pine and live oak with lots of yellow pine scattered in. South facing slope with scrubby live oak, Ceanothus, few digger & yellow pine. Large alders in stream bottom.

R. Zweifel

Mar. 23, 19 208

Rana boylii

4321 State Hwy 4, at South Grove Calaveras Big Trees State Park, 4600', Calaveras Co., Calif.

2044 92.

Logged over hillsides. Yellow pine, sugar pine, incense cedar, douglas fir.

Water 20°C. Stream 6-8' wide. Frog caught by Rainer was on debris by pool. Continuous snow cover on north facing slope, patches on south. Stream gradient steepens here. Alders.

The frog's dorsal surface is colored a smoky brown. No markings are discernable on the dorsal body surface. There is faint indication of broad tibial bars beneath the general smoky coloration. A light head stripe is evident. Yellow color is strongest in the region of the groin, with a few splotches as far anterior as the forelegs insertion. However, the ventral surface is generally white anteriorly.

Female ♀.

The pectoral girdle is typical boylii-type

R. Zweifel

Mar. 29, 1953

Rana boylii

Marsh Ck, 6.3 mi SE Clayton, Contra Costa Co. Calif

A total of 19 seen, 14 of these captured. Juveniles scarce. Water 9.4 to 10.0° C. The stream is clear now, but in some pools there is 3-4" of fine red silt. Pacific Tree aurora were seen. The streamside growth of Juncus and cattails is starting to recover from last fall's equipment and bovine devastation, at least in that portion of the stream near the bridge, where stock seems to be absent now.

An attempt to produce ovulation in one of the females failed. Dissection of the three adult females in the group disclosed all to be in post breeding condition!

One small ♀, SV 43 mm, contained large ova.

R. Zweifel Apr. 4, 1952 210

Rana boylii

2.6 mi WSW Saratoga, Santa Clara Co., Calif.

2050 RZ

Adult female. Water 9.4°C.
(see journal)
Post breeding!

Bear Ck, 3 mi. NE Boulder Ck, Santa Cruz Co, Calif

2052-3 RZ

Two of three seen taken. One ST 17.2°C, frog on rock in shade. Water 12.0°C
(see journal for general habitat notes).

One is a male, the other a ♀ with ripe ova present.

R. Zweifel April 18, 1953

Rana boylei

Willow Ck, O'Neals, Madera Co, Calif.

Open stand of digger pine, blue oak and interior live oak. Small stream averaging 4' wide but with pools up to 3' deep and 20' in diameter. Heavy growth of old willows and a few cottonwoods along the stream. Flow is slow, gradient slight. Water 21.2° c.

Seven Rana boylei were collected and three or four more seen in about a hour's hunt. By way of contrast, R. aurora was extremely abundant. An estimate of one frog / 20' of stream would probably be too low. For most of the length of the stream investigated, the stream border is typical R. aurora habitat and sub-optimal for R. boylei. In most places, the grass and herbaceous vegetation comes right down to the water's edge, leaving no free open area. Most boylei were in the few places where there was exposed rocky or sandy bank.

Also present were Rana catesbeiana (one individual seen), Hyla regilla, Clemmys marmorata, Coluber constrictor mormon and Thamnophis elegans couchi.

R. Zweifel

Aug 10, 1959

212

Rana boylei

(Willow Ck., Cont.)

Relatively large dorsal spots (61 mm ♂ a large ♀). Much contrast in light phase

Series contains 2 ♀♀, 5 ♂♂. One ♀ just hatching, other (58-45 mm) contains eggs developing but not spt spp.

R. Zweifel April 19, 1953 213

Rana boylei

Merced River, 1.9 mi. E Indian Lodge,
Mariposa Co., Calif.

Five frogs taken from a relatively quiet flow separated for a ways from the main stream. Water 12.5°C.

At this point the south-facing canyon wall has an open scattering of digger pine and interior live oak; the north-facing hillside yellow pine, black oak and live oak

Adult & gravid.

R. Zweifel April 19, 1953 214

Rana boylii

Big Creek, Fish Camp, 5100', Mariposa Co, Calif.

Slowly moving stream 15' wide, 2' deep where single adult & tadpoles. Water 8.0° C. Shore at point where frog first seen has 10' wide expanse of rounded 3" cobbles leading into feathers edge of stream.

Incense cedar, yellow pine and Douglas-fir are the prominent trees.

Bill Brenner caught another at the outlet to the artificial lake here.

R. Zweifel

April 19, 1953

215

Rana boylii

Pelissier Ck, 2 mi NE Briceburg,
Mariposa Co., Calif.

Small stream, 14°C. Digger pine,
live oak, buckeye. Taricha also in stream.
& Rana SV 45 mm juvenile.

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R. Zweifel

MSZ 216

Rana boylii

Salmon Ck, 2½ mi SE Fairview,
Tulare Co., Calif

2007-2093 PZ

April 26

A very rapid-flowing stream averaging about 8' wide, with numerous cascades and pools up to five 5' deep. Water 8.4°C. Digger pine and interior live oak form woodland on the hillsides here, though there is shrubby vegetation (Ceanothus) which reduces the woodland aspect. Alder, cottonwood and willow are along the stream and the banks support a thick growth of Artemesia vulgaris and blackberry.

The frog were quite common here. I saw eight and caught five on about 100' of stream. Most were perched on boulders when first seen - some plastered on the sides like Hyla arenicolor. They showed their ability to negotiate the rapid current. One when flushed directly into foaming white water popped up just four feet downstream and crawled out on a rock.

The females are gravid.

R. Zweifel June 1, 1953 217

Rana boylei

Lime Creek, Mt. Diablo Road, 5.3 mi. E,
1 mi. S Walnut Creek, Contra Costa Co., Calif.

36 E. Karlstrom

14 tadpoles collected along with a couple of adults. The tadpoles range in length from 38 to 56 mm, hind legs being about 8 mm long in the largest. Average length 45.3 mm.

The overall aspect of the dorsal ground color is Olive (Ridgway). Diffuse melanic spotting is present on the tail fin & musculature but is less evident on the body, due to darker ground color. Guanistic spotting is also distributed over the body and tail.

The ventral surface of the body is silvery and nearly opaque, so that the viscera cannot be seen only faintly.

R. Zweifel

June 6, 1953 218

Rana boylii

Tonyz Canyon, 1100', 6 mi E San Luis Obispo,
San Luis Obispo Co., Calif

212 R. F. Johnson

Young adult ♂. Dorsal spots 3 mm, very dense.
Dorsolateral fold region reddish-brown.
Throat light, but some aggregation of melanophores
evident.

R. Zweifel

Rana aurora

Frank Joe Meadow, 3 mi. SW Johnsondale,
Tulare Co., Calif.

2014-2107 RZ

April 26, 1953

A very moist meadow, elevation about 6000' (from Topo. Sheet), in the yellow pine, incense cedar, white fir forest.

Young Rana aurora were found to be very abundant in a small, weedy pond on the meadow. 14 were taken here and many more seen. No adults were seen, however. Water temperature 20.0°C.

Another nearby pond contained very few frogs but many large tadpoles. One of the few captured had the front legs nearly ready to appear. The tadpoles frequent the feather edge of the pond where the water temperature at 3:00 PM was 23.4°C.

It is obvious that the tadpoles overwintered as such, but what about the young frogs? I am inclined to the belief that they overwintered as tadpoles and transformed soon after the snow melted. Perhaps the tadpoles in the "frog" pond were more advanced than the others when overtaken by winter.

May 8

2108 RZ

Tadpoles preserved today. In some the front legs have appeared and tail resorption has begun.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

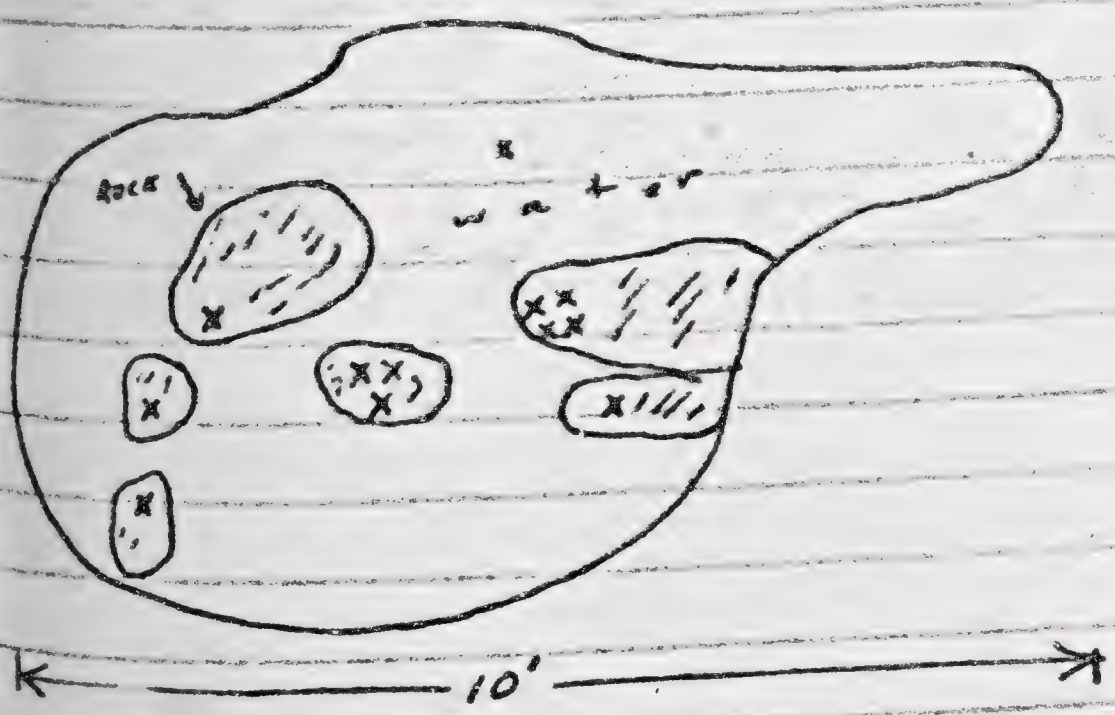
Rana aurora aurora

Sycamore Camp Ground, Little Rock Creek,
Los Angeles Co., Calif

May 1, 1953

Young frogs were very abundant here today. From a slowly moving 7' wide x 30' long x 1' to 8" deep section of a tributary stream 19 were taken and another seen, as well as four *Hyla arenicolor* and one *Hyla regilla*.

Another nearby small pool contained at least 12 small *Rana*, disposed as follows:



M. Zweifel

Rana sierrae Ingersoll

Sequoia Camp Ground (cont.) May 1

In the stream tributary mentioned above, the water temperature at the edge was 15.4°C, in the middle 12.0°C.

A frog sunning on a rock had a body temperature of 18.8°C; air 1 cm 14.5°C, rock surface 21.4°C.

In a pool containing many small frogs, a single transforming tadpole was found. Most had metamorphosed as a tadpole. Have the rest of abundant spring frogs transformed this spring?

Adults were scarce. I took 2 males and a female here, and another female on Little Rock Creek at Bear Mtn. Creek. Both females had bred. One appeared very thin, as if just bred, and still possessed abrasions on the chest.

R. Zweifel

May 10, 1953

Rana aurora

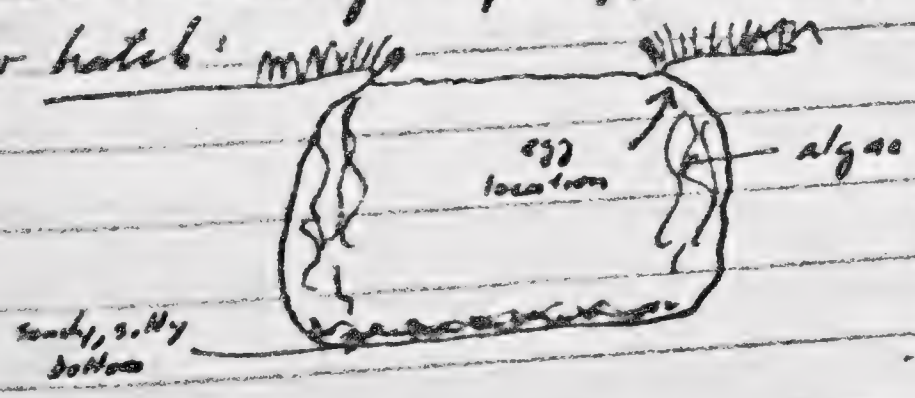
Lorrington Trout Ponds, 4800', Calaveras Co. Calif.

Marshy meadow bordered by yellow pine, sugar pine, incense cedar & white fir forest. Mainly grass in meadow, with skunk cabbage just starting. A few aspens around meadow.

A small lake supporting a commercial trout fishing business is backed up by a dam at the upper end of the meadow. Draining this is a narrow creek which in turn drains into San Antonio Creek at the end of the meadow.

Rana aurora was taken both in the creek in the meadow and in the lake itself. Three were taken at the border of the lake and two from the stream, where others were seen. The stream is narrow, seldom over 2' wide, with undercut edges deeply grown in grass. The stream is as deep as and sometimes deeper than wide for most of its length.

While trying to drive out a frog which had taken refuge under an overhanging bank, I came up with a net full of eggs nearly ready to hatch:



R. Zweifel

1953 223

Rana sierrae

Sage Hen Ck., Nevada Co., Calif.

The following data from Bob Hoffman:

April 10-12

Much snow, down to 0°F at night. No frogs.

April 27 - May 2

12" of snow fell Apr. 28. No frogs seen

May 6

Report first 2 frogs seen by station

May 17-18

Ampleying pair taken in overflow from stream in Kilm Meadow on May 17.
Tadpoles (large) with and without hind legs well developed and two very small frogs taken in meadow opposite station. Were in deeper ponds unlikely to freeze solid in the winter.
Egg masses were present mixed in Carex stems at pool edge.

The mouthparts of 3 large tads (one with the hind legs present) are essentially the same as the one drawn for thesis illustration (RZ 2108, French Joe Meadows, Tulare Co.), except that in the younger Sage Hen larvae a very indistinct 4th lower tooth row is present. The first lower row is complete or narrowly incomplete.

R. Zweifel

1953
224

Rana aurora

Small lakes by Tioga Pass, 9700', Mono Co. Calif.
Sept. 29

Only one adult frog seen, one subadult, and several small ones. Tadpoles abundant. Most of the Tads are in the 50-60 mm age bracket, no big development. A very few tads were much larger and had well developed hind legs.

The smaller tads will obviously be forced to overwinter as such, and represent this year's brood. Are the large tads stragglers from last year's generation or precocious individuals of this year? The small frog very probably represent last year's generation.

With the exception of two small frog tadpoles from a pool beside the stream (pool 14.4°C, stream 11.6°), all frog and tads were in two lakes. The larger lake is about 200 yds long x 200' wide. The immediate shores of the lake are muddy, since by this late in the season the water has receded some 10' or more from the grassy banks marking the high water level. In a feather-edge situation where tadpoles were congregated, the water temperature was 19.4°C.

The smaller lake is about 100' x 60'. This lake probably receives some underground flow from the creek (located on the opposite side of the highway), since the water level shows no evidence of having fallen much through the summer.

In a muddy feather-edge where tads & frogs found, water temperature 12.2°C

R. Zenifel

1953
225

Mono Lake
(Mono Co.)

Sept 29 (cont.)

Where water stands on grass, 14.5°C & 16.4°C, tide in both spots.

At a spot 5' from shore, the water at a depth of 18" was 11.6°C. At another spot 2' from shore, the water a 18" depth was 10.8°C.

The above records were taken around 10:00 AM

R. Zweifel

Rana sierrae

Lovington trout ranch, 4800', Calaveras Co. Calif
Oct. 4

Small frogs, some with tail incompletely resorbed, very abundant. Also many large tadpoles. Larger frogs including a gravid ♀ also taken.

Temperature records - small stream 12.1°C (granite frog present); trout pool 10.5° (ad. ♀); stream at lake outlet 16.4° (ad ♀); stream in meadow 18.6° (small frogs & tadpoles).

The woman whose husband owns the trout fishing business informed me that the snow pack lasts usually from the end of November until May, and is around 6' deep, though two years ago a depth of 11' was reached

Hatching eggs were collected here on May 10 of this year, so it is evident that development may be completed in one season.

R. Zweifel

1953 227

Rana aurora

San Antonio Creek, 4800'-4500', Calaveras Co. Calif.

Oct. 4

After leaving the meadow at Dorrington, the stream assumes a steeper gradient, flowing on bed rock much of the way. Small waterfalls and pools are numerous. Frogs were abundant along the stream here and under foam where the gradient was less steep, and the rocks in the stream average about 1' in diameter.

The upper part of the stream is in thick yellow pine, sugar pine, white fir forest. About 1½ mi. downstream I reached a road which crosses the stream and I followed down beside it. From this point on there has been considerable logging. Here the stream is shallower with smaller rocks. No frogs found below this point.

Temperature records.—

Stream 13.5°C (about 8)
Pool in bedrock 10.5°C

BT 18.8°C, air & rock 22.6, water 9.8 – in sun
BT 25.6, air 22.8, rock 25.8, water 10.4 – in sun
BT 21.4, air 20.2, rock 19.6, water 10.4, rock moist

R. Zweifel

1953 228

Rana sierrae

Sage Hen Creek, Nevada Co., Calif.

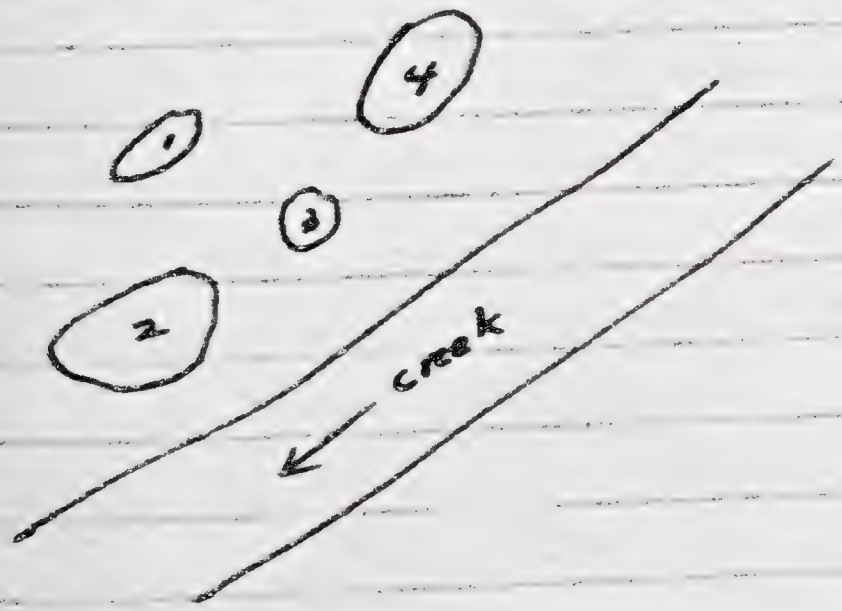
Oct 4, 1953

The following transcribed from Bob Hoffman's field notes for Oct. 4:

2:30 PM Went out hunting frogs along creek. Adults found along shallow (not steep) banks, where current is moderate and in adjacent potholes. Young adults also found along small tributary creeks.

Tadpoles found only in potholes adjacent to creek – mostly fairly deep & with silt & organic matter on the bottom.

On S. side of creek, where tads were collected this May in all 4 potholes, there are now tads only in # 3 which is the smallest & has least silt, etc., of the 4. There are a great many tads; they are smaller than those collected upstream.



238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zwifel

1952 229

Rana aurora

(Nevada Co., Cal.) Oct 4

Hoffman reports that the nighttime temperature fell to 15°F and ice formed on the ponds.

R. Zweifel

Scaphiopus hammondi

Tejon Ranch, 6½ mi. E Whaler Ridge, Kern Co, Calif

April 27, 1953

2124-26 R2

At about sundown on a day marked by intermittent showers and two heavy thunder-showers, the first spadefoot was heard calling soon after a ♀ was found on the road.

We returned about 10:30 PM and found the toads calling with *Hyla* in a reservoir and in a pond in a field. This is on the grassy plain near the foot of the Tehachapi Mountains.

Three male spadefoots were found crouched on the bottom of the pond in which they had been calling. Large tadpoles were present in the pond - four were collected. These proved to be *Bufo boreas* toads.

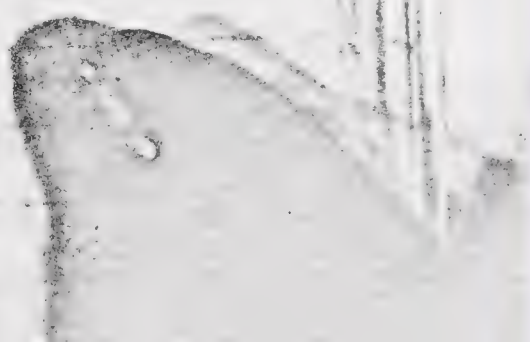
R. Zweifel

Feb. 23, 1953

Anniella pulchra

3 mi. S Pinnacles, San Benito Co., Calif.

Sandy canyon bottom. Valley oaks, coast live oaks, digger pines, willows along stream. A total of four taken by five of us in 30 minutes hunting. Lizards were beneath logs in slightly moist soil. Soil temperature at one spot 9° C.



238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

H. Zwaifel.

Annicella pulchra

San Juan Creek, 1½ mi. W Shandon,
San Luis Obispo Co., Calif

April 29, 1953

3132 A2

Under a 4" diameter willow log in very sandy soil on the first level above the river bottom. There is an open stand of willow and cottonwood here along the river on this arid valley.

The venter is dull greenish-yellow — quite dull as compared to those of southern California as I remember them.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Anolis

Tepotzlan, near Cuernavaca, Morelos, Mexico

2033-4 R. Z. (coll. S. Burnell, Feb 6, 1953)

Sterling Burnell brought in one living and one preserved Anolis. He says they were found on isolated rocks in an open field.

The living individual exhibits a throat fan with brilliant orange-red markings.

R. Zimmer

Mar. 1, 1953

234

Cremidophorus tigris

Grey Mesa 11½ mi SE Livermore, Alameda Co., Calif.
Under rock on grassy hillside with scattered blue oaks.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

N. Zweifel Apr. 4, 235

Bufbonotus cocnulus

2.6 mi. WSW Saratoga, Santa Clara Co., Calif.

2031 R2

About 9:45 AM in sunlight by stream. BT 14.0°C. Probably close to emergence temperature. See journal for general habitat notes

Bear Ck, 3 mi NE Boulder Ck, Santa Cruz Co., Calif

2054 R2

Full sun in 6" high grass. BT 30.2°C (see journal)

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel April 4, 1953

236

Gerrhonotus multicarinatus

Bear Creek, 3 mi. N.E. Boulder Ck.,
Santa Cruz Co., Calif.

2055-2056

Large adult stretched out on dirt road in shade - BT 20.2°C. This only about 35' from a G. coeruleus with at BT 30.2°C. Another G. multicarinatus active at BT 21.6°C

Habitat data in journal.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Nov. 15, 19[illegible] 237

Zonifer

Pterohomolus multicoxinatus

Black Hawk Ranch, Contra Costa Co., Calif.

One adult found crawling about on a grassy hillside in the afternoon. Another under a bond but active. An intermittently foggy & sunny day.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Zonifer

Feb. 23, 1953 238

Colubrina constricta

5 mi. N Alboyne Santa Clara Co, Calif.

A juvenile, BT 10.8° C, under 6" diameter
rock on grassy, rock littered hillside
bordered by live oak - bay woodland.

R. Zweifel

April 18, 1953

239

Colubrid constrictor mormon

Willow Ck., O'Neals, Madera Co., Calif.

In riparian situation (see R. Zweifel notes). Went into water when pursued. Had eaten a Thamnophis sirtalis.

About 10:30 AM. Four Contia under rocks in live oak - madrone forest. Two were together beneath a 10" x 1' x 4" deep basaltic rock in the oak litter, the others under separate 5" diameter rocks about 4" apart. Hillside slopes toward east about 30° Coverage of trees about 90% at collecting locality, varying to 100% nearby.

Also at this locality: 5 Eumeces skiltonianus, 4 Sceloporus occidentalis, 2 Aneides lugub. 1 Ensatina eschscholtzii and many Batrachoseps.

9.3 mi NNW Monticello, Napa Co., Calif

1:30 PM. Adult dug from a rotten digger pine log on top of a ridge. Blue oak, digger pine, manzanita, canyon oak (chrysolepis)

2:00 PM Coiled on moist earth beneath a 16" x 1' x 6" deep rock on the bank 3' above the stream

12:30 PM Adult coiled in a crack in a rock at roadside; Valley oak nearby.

R. Zaufel

Feb 1, 1953

Contra Costa

93mi NW Martinez (cont.)

Jerry Cook caught 6 Contra Costa and Bill Robertson two — a total of 11 for the locality.

Also taken here — 1 Eumeces skiltonianus, 1 Sceloporus occidentalis, 1 Bufo boreas, 3 Hyla regilla, 3 Rana b. boylii, 3 Aniseus leopterus, 2 Thamnophis sirtalis

R. Zweifel

Feb. 23, 1953 242

Cortia tenuis

5 mi. NE Gilroy, Santa Clara Co., Calif.

On soil beneath 6' x 1' oak log on 30° hillside with 20% cover of bay and coast live oak. Soil temperature 9.4°C. Log was not under ties, but on open or grassy slope.

R. Zweifel

Feb 5, 1953

Gadophis amabilis occidentalis

14.3 mi (by road) W Stage Springs, Sonoma Co., California

336 S. F. Cook, Jr.

Mid ventral. — Flame Scarlet
Sub-caudal. — Scarlet
Dorsal. —— between Dark Olive-gray and Iron Gray

SV 260 mm ±
Ventral color up two scale rows, the second row being touched with black along the upper edge. 21 small spots on 10 ventrals

---

337 S. F. Cook, Jr.

Mid-ventral. — Flame Scarlet
Sub-caudal. — Scarlet
Dorsal. —— closest to Dark Olive-gray

Ventral color up two rows. Ventral spotting sparse. — 8 spots on 10 ventrals
SV 300 mm ±

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Greifel

244

Diadophis amabilis

2.5 mi. NNW Calistoga, Napa Co, Calif.

Feb. 15, 1953

352 S.F. Cook, Jr.

Med. ventral. — Salmon-Orange
Sub-caudal — Brazil Red
Dorsal. — Dusky Olive-Gray

Ventral color up 2 rows. Top color well-defined. 35 small spots on 10 ventrals.
SV - 264 mm

Zweifel

Ouidaphin ovalilia

9.5 mi. NNW Calistoga, Napa Co, Calif.
Feb. 15, 1953
353 S. F. Cook, Jr

Mid ventral. — Mikado Orange
Sub-caudal. — Scarlet
Dorsal. — Dark Olive-Gray

Ventral color up 1½ rows, lip color well defined. 26 moderate spots on 10 ventrals.
SV 320 mm

Wm Riemer

Mid ventral. — Orange
Sub caudal. — Scarlet
Dorsal. — Iron Gray

Up 1½ rows, lip color with relatively jagged upper edge. 23 small spots on 10 ventral
SV 264 mm

Wm Riemer

Mid-ventral. — Mikado Orange
Sub-caudal. — Scarlet
Dorsal. — Castor Gray

Up 2 rows, lip color relatively jagged
20 ring spots on 10 ventrals.
SV 200 mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Diadophis amabilis

35 mi. NNW Calistoga, Napa Co., Calif.

Wm Reiner Feb 15, 1953

Mid ventral. - Mikado Orange
Sub caudal. - Vermilion Red
Dorsal. - Blackish Mouse Gray

SV 145 mm. up a, lip color fairly well defined. Belly spotting sparse.

R. Zweifel Feb. 23, 1953 247

Diadophis amabilis

3½ mi. W, 2 mi. S Pinnacles, San Benito Co., Calif.

Under rock 8" by 8" x 4", about 2" below general ground surface, soil temperature 7.2°C at 10:20 AM. Steep 30° slope littered with rock derived from nearby perpendicular conglomerate crags. Scrubby live oak and Ceanothus forms about 40% cover here. Stream bed 30' away has Aesculus. Digger pines also present. Anniella pulchra found in similar situation nearby.

SV 157 mm.

Mid-ventral - Flame Scarlet
Sub-caudal - Grenadine Red
Neck ring - Grenadine Red
Dorsal - Dusky Green Gray

Ventral color covers two dorsal rows, both of which have a black spot on each scale. Very few spots on ventral scales. Upper lip color border clearly marked.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Jenkins Feb. 22, 1953 248

Liolaemus multiformis

Bro. S. Ramirez, San Luis O., Calif.

1275 N. Stallins

Mid-ventral — Yellow Flame Scarlet & Yellow Orange
Lat-ventral — Scarlet
Dorsal — Dark Olive-Gray

Ventral color up 1½ rows. Spotting ?.
Upper lip color not too well defined

SV 367 mm

R. Zweifel

Dusiloglis amabilis ~~amabilis~~

Alameda Co, Calif.

H. Jordan

Dorsal ~~Median~~ - Dark Olive - gray
Med-ventral - Capucin Yellow
Sub-caudal - Geranine Red

Ventral color up one dorsal row, spotted or scale tips. Heavy ventral markings. Tip color pale, moderately well defined above.
SV 247 mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel March 8, 1953 250

Diadophis amabilis amabilis

3.9 mi NW Cloverdale, 600' Sonoma Co., Calif.

Paul Anderson

Mid ventral - Flame scarlet
Sub caudal - Scarlet
Dorsal - Castor Gray

Ventral color up 2 dorsal rows. Ventral spots small, sparse. Upper lip color not too well defined. SV 284 mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Mar. 8, 1958 251

R. Zweifel

Diadophis amabilis occidentalis

1½ mi. S, 8 mi. W Yorkville, 1700', Mendocino Co., Calif.

1558 Wm. Riemer

Mid-ventral - Orange Chrome
Sub-caudal - Scarlet
Dorsal - Castor Gray

Ventral color up two dorsal rows. Spotting sparse, spots small. SV 284 mm

Paul Anderson

Mid ventral - Flame Scarlet
Sub caudal - Vermilion Red
Dorsal - Dusky-Green Gray

Ventral color up two dorsal rows. Numerous small spots. Orange on lip well marked above.

R. Zwerfel

Mar. 12, 1952

252

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

S.F. Cook, Jr.

M

Mid-ventral - Mikado Orange
Sub caudal - Geranium Red
Dorsal. - black, gray flecks

Ventral color up ½ side, belly heavily marked. Barest suggestion of light color on upper lip.

SV - 305 mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Mar. 30 1953 253

R. Zwerfel

Diadophis amabilis

Between Felton & Ben Lomond,

Santa Cruz Co., Calif

(see Mary Bogue)

Mid ventral. — closest to Flame Scarlet - tending toward Rose Doree

Sub caudal. — Grenadier Red

Dorsal. — "Black"

Ventral spotting 2. Upper lip markings ill defined

Ventral color up one with faint indications

around SV 155

Mid. ventral. — Flame Scarlet

Sub caudal. — Grenadier Red

Dorsal. — Black

SV 155. Ventral spotting 1½. Upper lip

markings ill defined. Ventral color up one.

Most like D. amabilis amabilis in pattern by but

closer to D. a. vandenburghi in color

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R Zweifel

Mar. 31, 1953

254

Diadophis amabilis

Tilden Park, Contra Costa Co., Calif.

(coll S.F. Cook, Jr.)

Mid ventral — Cayenne Yellow
Sub caudal — Grenadine Red
Dorsal — black with gray flecks

Ventral spotting 1. Ventral color up ½ row.
Faint suggestion of orange on upper lip SV 312

Mid ventral — Mikado Orange
Dorsal —

SV 250. Ventral spotting 2. Ventral color up one row, spots on second. Little orange on upper lip

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Mid ventral — Orange
SV 236. Ventral spotting 1. Ventral color up one row. Orange on upper lip without well defined upper border

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Mar. 31, 1953 255.

R. Zweifel

Diadophis amabilis

Tilden Park, Contra Costa Co., Calif

coll. S. F. Cook, Jr.

Mid ventral — Orange. Ventral color up 1½ rows. Spotting 1. Upper lip color pale, not sharply defined above. SV 217

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

256

March, 19

P. Zweifel

Diadophis amabilis

Tilden Park, Contra Costa Co., Calif.

(coll. S. F. Cook, Jr.)

Mid-ventral — Orange

SV-246

Spotting 2. Ventral color up one row. Tail color pale, not well defined above.

April 1, 1953

(coll S. F. Cook, Jr.)

Med-ventral — Mikado Orange

Spotting 1. Ventral color not reaching dorsal scales. Only very faint indication of light color on supralabials. A very dark snake-neck ring usually visible.

SV 265

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Apr. 1, 1957

Dendroglis amabilis

Tilden Park, Contra Costa Co., Calif.

(coll. Gary Bogue)

Mid ventral. — Cadmium Orange
Sub caudal. — Scarlet
Dorsal. — Dusky Neutral Gray

Ventral spotting 1. Ventral color up one row, spots in second. Upper lip color ill defined
S1-295

April 1, 1953 258

N. Zweifel

Dialeglois ambilis

2.5 mi. SSW Los Gatos, Santa Clara Co, Calif.

2039 92

Under board in oak (black oak, coast live oak) forest. Eumeces under some boards.

Med-central. — Orange Chrome

Ventral color up 1½ rows. Spotting 2. Neck ring broad, bright. Upper lip color moderately well defined.

SE - 270

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

April 12, 1953 259

R. Zoufal

Dilophia amabilis vandenburghi

264 Mar Vista Drive Monterey,
Monterey Co. Calif

74 H. Rosenthal

Med-ventral. — closest to Shenadoa Red
but not that color.

SV-380

Ventral spotting 5. Color up 2 rows.
Upper lateral color similar to ventral, but
without a well-defined dark upper border

R. Zweifel April, 1953 260

Dudleya amabilis

Tilden Park, Contra Costa Co, Calif.

(coll Mary Bogue)

Med-neutral — Cayenne Orange

3R 127

Spotting 2. Color up 1 row. Petals lighter color on angra labiale.

R. Zoufal

April 1-5, 1953

Dudleyis emarginata

Tilden Park, Contra Costa Co., Calif.

(Coll. Jerry Cook, H. Snodgrass)

Mid ventral - Cayenne Orange.
Spotting 2. Ventral color up 1. Lig marking above.
SV 270

Mid-ventral - Mikado Orange
Spotting 2. Ventral color up 1. No definite upper border on lig marking.
SV 330

Mid ventral - Cayenne Orange
Spotting 2. Ventral color up 1½. Diffuse upper lig color
SV 260

Mid ventral - Mikado Orange
Spotting 2. Ventral color up 1. Little upper lig orange.
SV 290

Mid ventral - Mikado Orange
Spotting 2. Ventral color up ½. Very little orange on upper lip. SV 310

Mid ventral - Orange
Spotting 2. Ventral color up 1½. Orange on upper lip not well defined above.
SV 280. Freshly shed.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel April 1-5, 1953 262

Diadophis amabilis

Tilden Park, Contra Costa Co., Calif.

Med-ventral, Orange
Spotting 0. Ventral color up 1. Tip light color
ill-defined above. SV. 260.

Med-ventral, Coquina Orange
Spotting 1. Ventral color up 1. Little pale
color on upper labials. SV-160

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

263

R. Zweifel

Diadophis amabilis amabilis

Tilden Park, Contra Costa Co., Calif.

April 15, 1953

(coll. Jerry Cook)

Mid ventral - Capucine Yellow
ventral color up ½ row. Spotting 2. Upper
labial color not well defined above. SV - 160

Mid ventral - Capucine Yellow
ventral color up 1 row, touching 2nd.
Spotting 3. Upper labial color ill-defined above.
SV - 266

Mid-ventral - Capucine Yellow
Ventral color up 1½ rows. Spotting 2.
Upper lip color not well defined above. SV 285

Mid-ventral - Capucine Yellow
Ventral color up ½ row. Spotting 1. Very faint
trace of light color on upper labials. Neck
ring narrow & pale. A very dark individual.
SV - 236

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

April 19, 1953

264

Diadophis amabilis

Glass Valley Park, Alameda Co., Calif.

coll SF Cook, Jr.

Mod. reddish. – Orange Chrom

Spotting 2. Color up 1/3 row. Yellow lip orange.

SV 292 mm

Mod reddish. – Mikado Orange

Spotting 2. Color up 1 row. Fairly well defined

upper lip color, but pale. SV 292 mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Apr. 27, 1953 265

Zweifel

Diadophis amabilis

Cow Flat Ck., 2000', Kern River Canyon,
Kern Co., Calif.

1507 K. Murray
Mid ventral. — Cadmium Orange
Sub-caudal. — Grenadier Red
Dorsal. — a little darker than Castor Gray

Ventral spotting 2. Ventral color up 1½ rows.
Upper lip color border fairly well defined. Neck
ring broad and bright.

SV-287mm

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

May 24, 1952 266

F. Zweifel

Diadophis amabilis

Tilden Park, Contra Costa Co., Calif.

Mid ventral — nearest Orang Chaser.

SV - 435 mm.

Found active on a dry, grassy ~~slope~~ slope about 4:30 PM

Ventral spotting 2, Ventral cols up 1½ rows.
No definite break in lateral cols

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Tamiopsetes gatulus californicus

3 mi. NE Boulder Ck., Santa Cruz Co., Calif.

Apr. 4, 1953

2058 RZ

In a burrow (looked like a *Microtus* run) partly under a log beneath a *Baccharis* in a clearing in the border redwood forest. BT 16.8°C.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zweifel

Natrix rhombifera

Rio Coatzacoalcos, 10 mi. up from Minatitlán, Veracruz, Mexico

2032 R. Zweifel (coll. S. Burnell Feb. 2, 1953)

Sterling Burnell reports that this snake was caught when it was resting on a mangrove root by the river. They were reportedly common.

This individual probably represents a slight range extension, since the species was previously known south to south-central Veracruz.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

Mar. 1, 1953 269

R. Zweifel

Tantilla eisenii

Arroyo Mocho, 10½ mi SE Livermore, Alameda Co., Calif.

SSTA 2028 R2

Heavy slope, 20°. Open - nearest trees are blue oaks about 150' away. 11:10 AM. air under rock (14"x12"x6") where snake found 120°C.

Dorsal body surface Buffy Brown.
Venter Dragon's-blood Red

The red ventral color becomes progressively restricted laterally on the anterior ⅓ of the body, disappearing at about the first ventral. The gular region is gray.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

R. Zonfer

Feb. 23, 1953 270

Ophiocrene fuscus

3½ mi. W, 2 mi. S. Peninsular, San Benito Co. Calif.

Found at 9:00 AM beneath a chunked pried off a vertical face of conglomerate. Bat was torpid when removed, incapable of any effective movement.

Digger pine, coast live oak, buckeye.

R. Zweifel

Mar. 1, 1953 271

Sorex ornatus

Arroyo Mocho, 11½ mi. SE Livermore, Alameda Co. Calif.

Under log in 8" deep grass beside small draw with live oaks. Grassy hillside (30-40°) with scattering of blue oak. Microtus also under log.

238, 239, 241, 285-291. 1952: 20, 21, 47, 50-52, 55,

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R. Zwerfel 1954

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R. Zweifel 1954 A

R. Zweifel 1954

Catalog

2 mi. NNE Lafayette, Contra Costa Co., Calif.

Mar. 15

2611 Diadophis amabilis amabilis (coll. John Hopkins)

2 mi. N Millsaps, Glenn Co., Calif.

Mar. 21

2612 Batrachoseps attenuatus
2613 " "
2614 " "
2615 " "
2616 " "
2617 " "

4 1/2 mi. S Millsaps, Glenn Co., Calif.

Mar. 21

2618 Rana boylei

South side of North Peak, 3200', Mt. Diablo, Contra Costa County, Calif.

April 4

2619 Sceloporus graciosus
2620 " "

5 mi. SW Continental, Pima Co., Arizona

April 30

2678 Masticophis flagellum

Tucson, Pima Co., Arizona

April 30

2679 Cnemidophorus tigris)
2680 Urosaurus ornatus) collected by Wm. Woodin

R. Zweifel 1954

R. Zweifel Catalog 1954

Hopland Field Station, Mendocino Co., Calif.

May 15

2681 Bufo boreas
2682 " "
2683 " "
2684 Sceloporus occidentalis
2685 " "
2686 " "
2687 " "
2688 " "
2689 Eumeces skiltonianus
2690 " "
2691 Pituophis catenifer
2692 Lampropeltis getulus

Sabino Canyon, Pima Co., Arizona

June 20

2693 Cnemidophorus sacki exsanguis ♀
2694 " stictogrammus ♂
2695 Masticophis bilineatus

7 mi. W San Fidel, Valencia Co., N. Mex.

June 21

2696 Thamnophis elegans vagrans 74501
2697 " " " 74786
2698 " " "

2 mi. N Valarde, Rio Arriba Co., N. Mex.

June 22

2699 Cnemidophorus sacki innotatus
2700 " " "

2701 Rana virgatipes
2702 " "
2703 " "
2704 " "

R. Zerwick 1954

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R. Zweifel 1954 4

Arroyo Mocho, Alameda Co., Calif.

Feb. 7

Looked for Rana boylii. A few juveniles out, but acts very scare. Captured one adult ♀, water 10.8°C, in the upper Arroyo. Juveniles in water 8.8-9.2°C. Warm & sunny today & has been so for last week. Two weeks ago there was a 6" snowfall on the upper part of the Arroyo.

I found one adult Eumeces gilberti beneath a board, Jerry Cook and Dick Russell two others. Also a small Sceloporus graciosus gracilis.

San Joaquin Experimental Range, Madera Co., Calif.

March 14

We arrived at the range last night on a trip with the Field Ecology class (Dr. Pitelka's). The day was devoted to touring the Range and making transects of Hank Childs' rodent study areas.

In what spare time was available, we looked for herps. under the numerous granite rocks. Slender (E. gilberti) were common. A smaller number of Ute slevinsoni and Sceloporus occidentalis, both active around rock outcrops, were seen. Jerry Cook found a Rhinocheilus beneath a rock and Dick Russell a small Pituophis under a log. I found a single Batrachoseps attenuatus under a digger pine log. Hyla were calling at night, though there was not a strong chorus.

Hank Childs said that the Scaphiopus were calling up to Mar. 8, when a cold spell set in which lasted up to the day before we arrived. They did not call during our stay here. The days have been warm & sunny, the nights with frost on the grass.

March 15

Worked on and near the range until shortly before noon, and then drove to Pacheco Pass on the Santa Clara Co. - Merced Co. boundary. Some chaparral, mostly open stand of coast live oak over grass. Buckeyes in leaf.

Batrachoseps and Aneides lugubris were common. I uncovered 13 Aneides in about an hour of collecting. They were under and within oak logs and under rocks and pieces of tin. There were a few Sceloporus occidentalis under cover, and four Thamnophis elegans were found. I found two of the garter snakes active on the top of a small rise on a sunny

Pacheco Pass, Santa Clara Co., Calif Mar. 15

spot in the oak-grass area. One of these had eaten, 1 first, a large Ameiva.

The snakes have the general coloration of T. s. atratus, s. orange stripe, no red at all, but are probably T. s. terrestris. Fox (1951:301) noted interior specimen which resembled atratus.

Left Berkeley at 6:45 AM with Bill Reiner and Dick Zweifel and drove directly north to Orland, Glenn Co. From Orland we drove west to Newville (no town, no anything) and then south. At about 2 mi. N Milsage, Glenn County, we worked over a hillside mion open stand of blue oaks. Turned over numerous sandstone rocks but found nothing under them of interest. Six Batrachoseps attenuatus were found under a stump. It was raining hard when we left Berkeley, and rained intermittently at this first collecting stop.

At 4½ mi S Milsage we found four Ensatina eschscholtzii and three Batrachoseps under rocks and boards beside the road one hundred feet or so from Stony Creek. We found a small Rana boylii in the creek. Willow, cottonwood, elderberry and redbud are common here.

Took the road to McGee Springs, stopped after about 8 miles and returned. Dense chaparral with scattered knobcone pines where we turned around.

At 4 mi N Stonyford (Colusa Co.) in Glenn Co a small boylii was found but not kept.

Tried the road to Goat Mtn, but too muddy (still raining). Then tried road to Bartlett Springs. Got 12 miles (with chains on tires), but a stream was 4' deep in a ford, so turned back. Went over Hwy 20 to Lake and then home. A Taricha torosa was found on the road 4 mi NE Middletown, Lake Co.

Sonoma County, Calif

April 14

Trip with Dick Bissell and Stan Volz.

1.6 mi. W Forestville, Sonoma Co. — Collected in grassy areas edge of border-redwood forest. Took 2 Gerrhonotus coeruleus and one small Aneides lugubris.

.7 mi (by road) W Guerneville, Sonoma Co. — Redwood forest. 1 Aneides lugubris beneath and between slabs of Douglas fir bark on ground. Also one small Gerrhonotus coeruleus.

.5 mi (by road) S Cazadero, Sonoma Co. — One Thamnophis elegans terrestris.

1.6 mi. NNW Cazadero, Sonoma Co. — Douglas fir-redwood forest. 1 Diadophis amabilis occidentalis, 5 Gerrhonotus coeruleus, 1 Aneides lugubris, 1 Aneides flavipunctatus, Taricha rivularis; 1 young Rana boylii in a small stream, water 17.4°C.

2 mi. WNW Cazadero, 650', Sonoma Co. — 3 Gerrhonotus coeruleus (two a mating pair), 1 Eumeces skiltonianus.

Hopland Field Station, Mendocino Co., Calif.

May 14-15

Trip with Zool. 125C class. Region probably was thick broad-sclerophyll forest tending toward border-redwood, but has been cleared to a woodland, except in canyons. There are a few post-climax douglas fir and sugar pines about. The following herps were collected or recorded:

4 *Bufo boreas halophilus*. — one under a log, another caught on a mouse trap and one active at night, BT 12.7°C, air 1 cm. 14.5°C

— *Hyla regilla*. — heard calling

18♂ *Anaides flavipunctatus* } both were found in same
9♂ *Anaides lugubris* } cover.

5 *Scaloporus occidentalis*. — only one a ♀, and heavy with eggs. Are most ♂♂ in retirement now?

1 *Xenhonotus multicarinatus* gard

3 *Eumeces skiltonianus*. — ♀♀ with large eggs was under a log by the creek.

1 *Thamnophis elegans agnetinus*

1 *Coluber constrictor mormon*

1 *Tampropeltis getulus californiae*

2 *Pituophis catenifer catenifer*. — A large adult, BT 23.2°C, was stretched out on a dirt road (surface 32.4°C) at noon.

1 *Diadophis amabilis*

Angel Island, Marin County, Calif.

May 30

Trip with Don Isaac and Dick Russell. Contracted with a man at Tiburon to bring us over today and pick us up tomorrow noon. Arrived at Hospital Cove a little before 11:00 AM and were taken by the State Park Ranger (Callahan) to the army post to sign in. We walked back from Ft. MacDowell to Hospital Cove on the dirt fire road, Isaac and Russell taking the south half of the loop and me the north.

I turned over a number of rocks and boards but found only a single Sceloporus occidentalis under a board. Russell & Isaac got a couple of Sceloporus, a Sceloporus occidentalis and a few Batrachoseps attenuatus. They also saw a Coluber constrictor.

In the early afternoon I walked on the paved road north and east of Hospital Cove. A large Thamnophis elegans terrestris and another Sceloporus were taken. Late in the afternoon a large number of Batrachoseps were taken on the north side of Stuart Point.

Coastal scrub, chaparral and broad-sclerophyll forest are all represented on the island. The best stand of forest I have seen is on the north side of Stuart Point, where large bays and coast live oaks form a continuous canopy 30' high over an area of several acres. There is no shrub layer, but well-developed herbs. This formation seems scrubby and patchy where I have seen it on other parts of the island. There are many Arbutus and a few Aesculus present.

Both "wet" (Berberis) and "dry" chaparral are seen. Northeast of Hospital Cove there are several good stands of Adenostoma-Ceanothus chaparral. Berberis pinnata forms a tall chaparral stand on some ~~open~~ hillsides, but is also prominent on

(Marin Co.)

May 30

a congeneer of the coastal scrub, along with Diplacus, Artemisia californica and Rhus diversiloba.

Some of the draws evidently not deep enough to support oaks and bays have an impenetrable, intertwined mass of Baccharis, Rhus, Rubus parviflorus and R. ursinus.

Dorothy Dick found two ponds, evidently permanent, but could find no amphibia at them.

The most conspicuous animal on the island is the blue swallowtail, Papilio philenor. I on one time I counted thirty of them in sight at one time, and could have done this many times throughout the day. They show all stages of wear, from those very battered and scarcely able to fly to newly emerged ones with wings still wrinkled. One of the larvae was found on a twig on a scrubby live oak. Presumably the vine is a species of Aristolochia.

Tiburon
Pt Tiburon
Corinthian
STRAIT
RACCOON
Campbell Pt
Simpton Pt
Hospital Cove
ANGEL ISLAND
Mt Ida
Ft McDowell
Quarry Pt
BM 33
Stuart Pt
Lighthouse
BM 17
Tank
Knox Pt
Lighthouse
Blunt Point
Lighthouse
Blunt Pt Rock
True North
Magnetic North
0.5
1.0 mile

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Rana muscosa

Sage Hen Creek, 6500', Nevada Co., Calif.

Apr. 29

(The following copied from Bob Hoffman's notes.)

16:00 Just above the station in some small, 1-2' deep potholes next to the creek, some adult Rana as well as overwintered tadpoles were seen. There have been no frogs along the creek itself. I walked a good bit of it in the Kiln Meadow and above and below the station.

16:30 Collected three single males and an amplexing pair from a pothole on the north side of the creek. Also collected three egg masses (one looks somewhat different--an earlier stage of development?). The water temperature around the eggs was 47°F.; ~~the tadpole about 1½ inches long~~ in a somewhat deeper part of the hole, at the same depth (1½") 49.8°F. One tadpole, about 2½" long was collected--the others in this hole are about the same size.

17:00 On the south side of the creek another amplexing pair was collected; water temp was 48.4° F. Four smaller tadpoles were taken from this hole; they are 1½--2" long. The hole is a shallow one.

17:15 Returned to the station. The egg masses were placed in the refrigerator (water temperature 43.8° F.

April 30

05:30 ~~Xxx~~ Snow is falling steadily.

R. Zweifel 1954 18

Diadophis amabilis pulchellus

6 mi ENE Bruceburg, 1800', Mariposa Co., Calif.

59 for Norman Feb. 28

Med nonhat; fg Flame Scarlet

Sat caudal: Scarlet

Ventral color up 2 rows. Spotting close 5

Tabid color sharply defined above. SV 300 mm

R. Zweifel 1954 19

Diadophis amabilis

2 mi. NNE Lafayette, Contra Costa Co., Calif.

2611 R. Zweifel (J. Hopkins) Mar. 15, [illegible]

Mid ventral. – Orange

Ventral color up 1; upper lip markings obscure; ventral spotting class 1½.

SV – 260 aa

R. Zweifel

1954
20

Diadophis amabilis occidentalis

0.6 mi. NNW Cazadero, 250'; Sonoma Co., Calif.

April 18

Warm, sunny day. Snake found by Steve Volz at about 1:00 PM crawling about in the redwood-border forest. The snake later regurgitated a Batrachoseps.

Med-ventral. – between Buttercup Orange and Flame Scarlet
Ant-caudal. – Scarlet

Ventral spotting class 6; ventral color up almost 2 dorsal rows; upper lip color well defined above.

SV 290 mm

P. Zwerfel 1954 21

Diadophis amabilis

3½ mi. SSE Felton, Santa Cruz Co., Calif.

April 17

400 S.F. Cook, Jr.

Mid-ventral Flame Scarlet

Sub-caudal Scarlet

Ventral color up 1¼ dorsal rows; spotting class 3; upper lip color not sharply defined above; SV 280 mm.

399 S.F. Cook, Jr.

Mid-ventral Bittersweet Orange

Sub-caudal Scarlet

Ventral color up 1½ dorsal rows; spotting class 3; upper lip color not sharply defined above; SV 270 ~~300~~ mm.

401 S.F. Cook, Jr.

Mid-ventral between Bittersweet Orange and Flame Scarlet

Sub-caudal Grenadine Red

Ventral color up 1½ dorsal rows; spotting class 2½; upper lip color fairly sharply defined; SV 210 ~~200~~ mm

402 S.F. Cook, Jr.

Mid-ventral Bittersweet Orange

Sub-Caudal Grenadine Red

Ventral color up 1½; spotting class 2½; upper lip color fairly sharply defined above, SV 150 mm.

397 S.F. Cook, Jr.

Mid-ventral - Flame Scarlet

Sub caudal - Scarlet

Ventral color up 1, tends second; spotting class 2½ upper lip color fairly well defined; SV 310 mm

98 S.F. Cook, Jr.

Mid ventral - Bittersweet Orange;

up 1½ rows; upper lip color well defined, spotting class 2

SV 190

P. Zwiefel

1954 22

Diadophis amabilis pulchellus

Foot of Staircase Falls, Yosemite National Park, Mariposa Co.

R. C. Stebbins

Med. neotal. - between Glendale and Glendale Rd

Ventral color up 2 rows, touching 3rd. Zig zag sharply defined above. Spotting clear 5 on 4½. SV 210 mm.

R. Zweifel

195+23

Diadophis amabilis

Hopland Field Station, Mendocino Co., Calif.

May 15, [illegible]

Wm. Riemer

Mid-ventral - Orange Chrome

Ventral color up 1½ dorsal rows; upper lip color border fairly sharp; ventral spotting clear 2½

SV - 330 mm

R. Zweifel

Mar 14, 15 1954

24

Eumeces gilberti

San Joaquin Experimental Range, Madera Co., Calif.

Skinks quite common, most under rocks, a few beneath logs. One was seen on open running through grass. I found 10 in the relatively short time free for collecting on these two days, Jerry Cook and Dick Russell found many more.

One under a rock was on soil 8.6°C at 9:00 AM. Another under a rock at 11:00 AM had a body temperature of 13.6°C.

Zweifel

1954 26

Gerrhonotus coeruleus coeruleus

1 mi. N Montara, San Mateo Co., Calif.

Active at about 11:30 AM, BT 20.1°C, air 1° 17.4°C.
Overcast.

Bombonotus caerulans sheatensis

1.6 mi. W Forestville, Sonoma Co., Calif.

April 14

An adult active at the edge of a grassy clearing, BT 29.1°C.

0.6 mi. NNW Cazadero, 250', Sonoma Co., Calif.

Two active adults, BT 24.0 and 24.5°C. Another darted out when a log was turned, was probably hiding at edge of log since was damp and cold beneath log; BT 30.5°C

2 mi. WNW Cazadero, 650', Sonoma Co., Calif.

A mating pair, ♂ BT 28.2°C, ♀ 27.6°C. Active.

P. Zwerfel

1954 28

Xerbonotus coeruleus

Angel Island, Marin Co., Calif.

May 30

A sub-adult was evidently taking the late afternoon sun in the top of a Tapinoma bush. It dropped into the bush but stopped half-way down where I caught it. BT 27.6°C, air 26.8°C.

During the course of the day, others were found in the following situations: in a rock wall; under boards; actives in bush

R. Zweifel

1954 30

Sceloporus graciosus

South side of North Peak, Mt Diablo, 3200; Contra Costa County, Calif.

2619-20 ~~2220-20~~, RZ

April 11

Two juveniles on the ground (or on small rocks, not on large outcrops where S. occidentalis was seen) near the crest on the western spur of the peak. The place were the lizards were captured along the trail is grassy. About 100 feet down the slope the heavy chaparral (mainly Ceanothus) begins, and 40 feet above the trail on the crest are thickets of Quercus chrysolepis and Q. wislizeni.

Zweifel

1954 32

Thamnophis elegans atratus

Montara, San Mateo Co., Calif.

April 3

Active in grass at edge of sea-bluff in same habitat as T. e. terrestris. BT 26.0°C, about noon.

? Zwicke

1954 33

Thamnophis elegans terrestris

Montara, San Mateo Co., Calif.

April 3

~~Ten~~ three individuals found on the grass & Eriophyllum about noon. Largely overcast, no direct sunshine. BT's 22.0, 23.5, & 24.4 & ~~20.0°C~~. All were active.

P. Zwiefel

1954 34

Thamnophis elegans terrestris

Angel Island, Marin County, Calif.

May 30

BT 27.4°C. on dry grass in shade at edge of scrubby broad-sclerophyll forest about 2:30 PM.

R. Zweifel

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1954 76

Catalog

Bahia Don Carlos, 10 mi. W Guaymas, Sonora, Mexico

April 25

2621 Uta taylori
2622 " "
2623 " "
2624 " "
2625 " "
2626 " "
2627 " "
2628 " "
2629 " "
2630 Phyllodactylus homolepidurus
2631 " "

April 26

2632 Cnemidophorus burti
2633 " "
2634 " "
2635 " "
2636 " "
2637 Uta taylori

April 27

2638 Cnemidophorus burti
2639 Cnemidophorus tigris aethiops
2640 " " "
2641 " " "
2642 " " "
2643 " " "
2644 " " "
2645 " " "
2646 " " "
2647 " " "
2648 " " "
~~2649~~

April 28

2649 Urosaurus ornatus

R. Zweifel

Catalog

Isla Chapetona, Ensenada San Francisco, ± 8 mi W Guaymas, Sonora, Mexico

April 28

2650	Callisaurus draconoides	inornitatus	
2651	"	"	"
2652	"	"	"
2653	"	"	
2654	"	"	"
2655	"	"	"
2656	"	"	"
2657	"	"	"
2658	"	"	"
2659	"	"	"
2660	"	"	"
2661	"	"	"
2662	"	"	"

Bahia San Carlos, 10 mi. W Guaymas, Sonora, Mexico

April 29

2663	Cnemidophorus burti		
2664	Cnemidophorus tigris	aethiops	
2665	"	"	"

Ensenada San Francisco, ± 8 mi. W Guaymas, Sonora, Mexico

April 29

2666	Callisaurus draconoides	inornitatus	
2667	"	"	"
2668	"	"	"
2669	"	"	"
2670	"	"	"
2671	"	"	"
2672	"	"	"

Catalog

3 mi. NE Guaymas, Sonora, Mexico

April 29

2673 Cnemidophorus burti
2674 Urosaurus ornatus
2675 " "

N side Ensenada Bocochibampo, 5 mi. W Guaymas, Sonora, Mexico

2676 Sceloporus clarki
2677 Urosaurus ornatus

Journal

Sonora, Mexico

April 24

Passed the border without even having a bag opened and headed south at 4:30 PM. There are customs stations at the south edge of Nogales, 12 mi. south of Nogales and at Imuris, 40 mi. south of Nogales. Only auto and tourist permits were checked at these stations, though at the last one, the man showed some interest in a package of .38 cal. shot shells he noticed in the glove compartment.

We drove 110 miles after dark, some of it over the same sketch twice when we went back for gasoline, and didn't see a single snake on the road. The air temperature when we started at Puerto Lopez (17 mi. S Casa Blanca) was 21.6°C at 8:15 PM, and at our camp a few miles past Hermosillo at midnight was 20.8°C. There was no moon.

April 25

Drove to Guaymas in the morning and then back to Bahia San Carlos. The road to San Carlos Bay is about four miles from the Mirimar junction (toward Hermosillo) and has been built up into a virtual superhighway. Progress has begun to decorate Bahia San Carlos — there is rumor that a resort hotel is on the offing.

Tonight's camp is on the narrow neck of land ~~connecting~~ separating Ensenada de las Tetas and Bahia San Carlos. This neck of land is composed largely of water-worn stones 6" to a foot in diameter. It has the appearance of a beach deposit. Uta taylori was the only lizard seen here, but was abundant.

The terrain about here is most rocky. Hillsides are littered with angular chunks of volcanic rock; there are numerous jagged outcrops. Two Phyllodactylus homolepidurus were found running across outcrops after

Bahia San Carlos, Sonora, Mexico

April 25

dark.

The vegetation is typical arborescent desert. A few columnar cactus, pricklypears and numerous spiny shrubs and small trees. Few of the plants are in leaf, so the aspect is rather gray at this time.

April 26

This morning we moved our camp to a canyon at the head of San Carlos Bay, now that the Sunday picnic crowd has gone. The canyon is narrow, steep and rocky. Mesquites and similar trees are present where the canyon bottom is wider near the mouth, but there are few such trees higher up on the rocky part of the canyon. Palm trees are present both in a few clumps in the canyon bottom and in draws on the canyon walls. There are even palms growing along the rim of the canyon, particularly along the west side. I assume that some peculiarity in the rock structure must force water high up on this ridge. The only surface water in the canyon is in two potholes in a narrow stretch relatively near the canyon mouth. Above that the canyon widens and terminates as a box canyon.

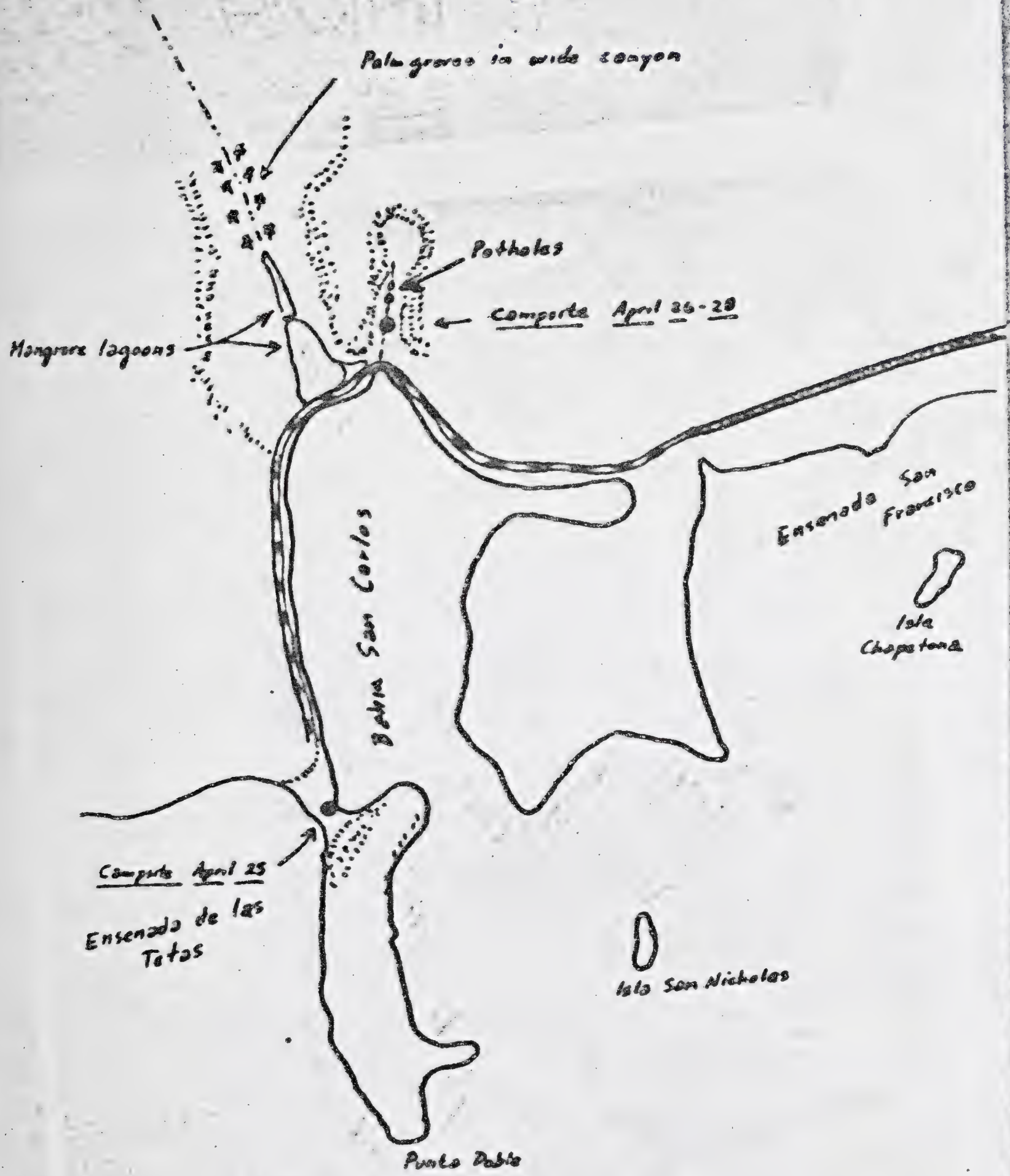
The larger of the two potholes is about 10 feet long (at water level) and 3½ feet deep, the other 7 feet by 1½ feet. To judge from water marks on the walls, each would be about twice as deep when filled in the rainy season. In the evening I dip-netted several shrimp* from the potholes. The shrimp have been preserved.

I found a few Cremnophorus barti on the canyon, both on the rocky hillsides and in the more heavily shaded part of the canyon bottom. Uta taylori is also present in the canyon. Urosaurus ornatus and Sceloporus clarki were seen on a tree

* see note on back

R. Zweifel

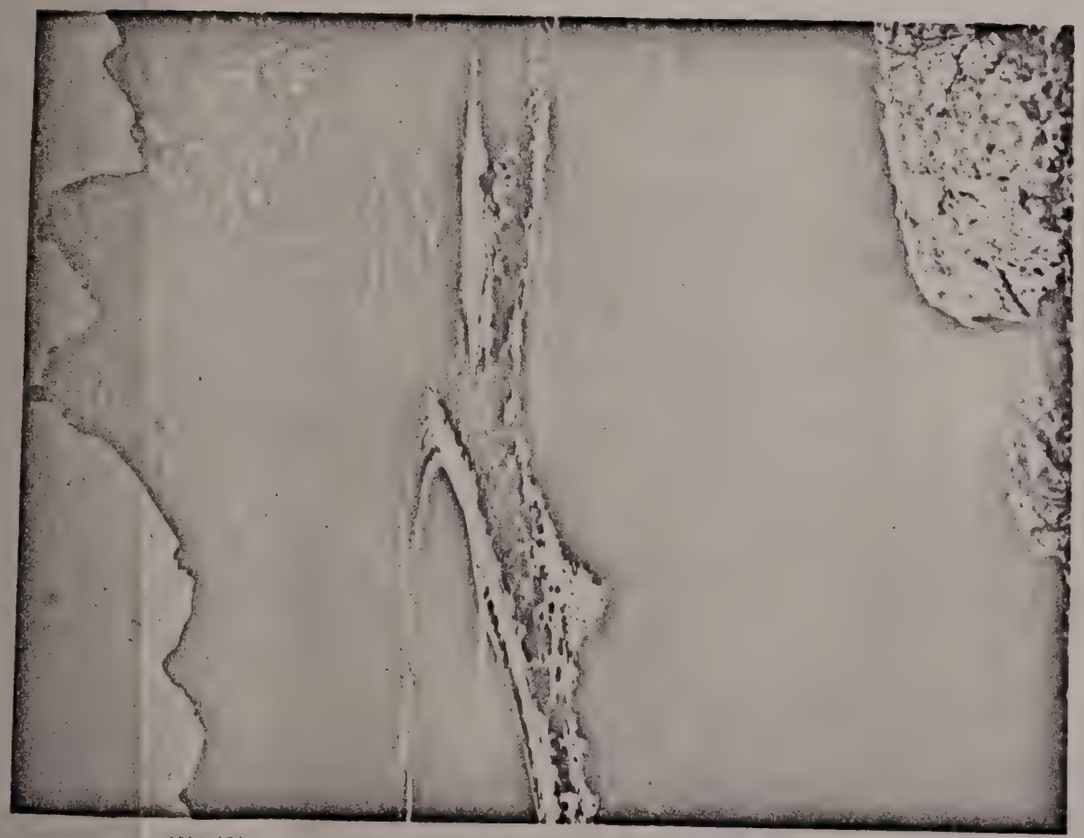
1954



Sketchmap of Bahia San Carlos & vicinity

N. Zweifel

Bahía San Carlos, Sonora
April 1954
Photos: R. G. Zweifel



Bahia San Carlos, Sonora, Mexico

April 26

in camp.

April 27

The next canyon to the west of the one in which we have camped is wide, actually more of a pass between the hills than a canyon proper. There cat-tail-filled mangrove lagoons separated from the Bay by a sand bar over which the road passes (see map). A short distance up canyon there is an extensive grove of palm trees. Bloedel looked for bats in the palms but without success, as was our experience yesterday in the canyon where our camp is located.

I spent two or three hours this morning working in this wide canyon, and shot a number of Cremnodophous tigris. The usual separation is again evident here: The sacki type (here C. burti) is in the narrow canyons and on the steeper hillsides, while tigris inhabits the more open, level places.

Tonight Bloedel set a trammel net for bats at the larger of the two potholes, 10 or 15 miles by motor-driving on the highway north of Guaymas - 20 miles.

April 28

Eight bats were caught by the net (some taken out of it last night), including a Pipistrellus, a Longorhinus, an Eptesicus, a fruit-eating bat (Artibeus) and two kinds of nectar-eating bats. Also in the net in the morning were a cardinal and a chipmunk (Eutamias).

We spent most of the day in a rented, outboard-powered boat investigating the islands between San Carlos Bay and Guaymas for fish-eating bats.

Isla San Nicholas is little more than a vertical-sided rock projecting from the water. There are a few large cactus growing with shrubby plants atop the island, but there is much guano. Bloedel found evidence of

Bahia San Carlos, Sonora, Mexico

April 28

Pizarro is one of the finches, but saw no reptiles. However, he didn't get atop the island where the plants were.

Isla Chapetona is a low, rounded island with a sandy beach on the landward end. Callisaurus was very abundant here (see species account).

Isla Medio seemed to have no herps, though we did not spend too long on it. It was quite rocky and steep-sided with grass.

Isla Blanca has a precipitous, cliff-like periphery, but a rather rounded interior. The surface of the island is littered with flat rocks which concealed numerous insects, spiders (including black widows), centipedes and scorpions, but seemingly no reptiles. Bloedel found a colony of fish-bats on the island.

Back at camp again, a very large Bufo alvarius was seen in the larger pothole, but in a position where it could not be secured.

April 29

This morning I shot a couple of Crotalophorus tigris near the mouth of our canyon, but in its typical tigris habitat, and a burti a few hundred feet away at our campsite. I also collected seven callisaurus on the beach opposite Isla Chapetona for comparison with those taken yesterday on the island. I drove to Guaymas and then two or three miles further on the road to Empalme to where a power line with attendant road crosses the highway. One mile north on this road I got a C. tertis and a couple of Uma scoparia. No Uta could be found, though I looked especially for them. The Uma were on rocks. Also saw a Sceloporus on a rocky outcrop, but didn't get it.

Went back to Borochibampo and with Bloedel

~~[illegible]~~

Guaymas, Sonora, Mexico

April 29

Hiked up a canyon on the north side of Ensenada Bacochibampo in search of a reported bat cave. Didn't find it. Got one Sceloporus clarki and a Urosaurus ornatus. Again no Uta taylori.

Went out with Bloedel to the island (Isla Pinta) and left him there to set his nets and returned to Bacochibampo. Drove about 20 miles of highway north of Guaymas without seeing a snake or lizard, alive or dead. After returning, I went back to the island (with the man who rented us the boat piloting it) and picked up Bloedel and 20 Pizonyx.

April 30

En route Guaymas to Tucson. Left Hwy. Bacochibampo at 9:00 AM, arrived Nogales at about 2:30 PM. Only two DOR snakes were seen, a Salvadora hexalepis 14 road miles N Imuris and a Trimorphodon lambda 17 road miles N Imuris. Neither was in fit condition to be saved. This was a hilly region with many mesquite trees.

In Arizona, along, DOR Masticophis flagellum was found 5 mi. SW Continental, Pima County. The anterior fourth of the body is black, but shows traces of the joined rings which characterize a new race from south of this region to be described by Jones & Woodin

Temperature data for Bahia San Carlos Campo:

	Max °F	Min °F
April 25	87°	—
" 26	—	66°
" 27	92	57°
" 28	86°	63°
" 29	—	68°

Callisaurus draconoides

Isla Chapetona, W of Guaymas, Sonora, Mexico

April 28

A low, rounded island with a relatively sparse growth of dry herbaceous vegetation and a few cholla. The soil is a litter of water-worn, rounded pebbles about 1" or diameter. There are also large rocks 1' in average diameter scattered about.

These lizards were very abundant. Thirteen were secured in about 45 minutes, 8 shot and five captured alive. Here they were relatively easy to capture by hand, since they could often be seen until they tired and then could easily be captured. They seemed to be most abundant on the sandy beach, but were present over the whole island.

A. Zweifel

1954 86

Callisaurus draconoides

Ensenada San Francisco, W Guaymas, Sonora

April 29

On the shore directly opposite Isla Chapetona, where callis were collected yesterday. Very sandy, mesquite and other brush and trees well spaced, averaging perhaps 15-20' apart. Iguanid abundant.

Male with green belly patches, becoming yellow-green on groin. Axillary end of belly patch reddish-brown. Yellow spotting at usual femoral insertion. Throat gray.

Female with poorly developed belly patches, faint yellow-green ~~[illegible]~~ shading into yellow at groin, reddish at anterior end. Throat white with faint orange yet centrally paired black bars visible through belly patches.

R. Zweifel

Cremnophorus barbi

Pebia San Carlos, e of Chuapuca, Sonora, Mexico

April 26

Three shot on canyon bottom and one rocky hillside.
SI 48, 60 and 63 mm

Ground color dark brown. Tail lighter with an lighter, ruddy tinge especially evident on the lower surface. The lateral and dorso-lateral light line are distinct to the base of the tail, but very obscure on the tail. These lines are very light too. The paravertebral lines are found most of the way on one individual, being distinctly separated anteriorly and somewhat less or above the hind legs above the lines are diffuse (SI 60). On the other two, the lines are separate their full length. The paravertebral lines are much broader than the lateral and dorsolateral ones. Ventral surface white. Dorsal surface of hind legs similar brown.

April 29

All barbi which I have seen have been in the canyon in which we have camped or on rocky hillsides, while C. tigris is present in the more level, less rocky areas. I took the two within a few hundred feet of one another at the mouth of our canyon, but not together.

R. Zweifel

1954 88

Cremnophorus tigris

Bahia San Carlos, 10 mi. W Guaymas, Sonora, Mexico

April 27

This morning I worked up a wide canyon to the west of that one in which we are camped. Cremnophorus tigris was common in the relatively level canyon bottom. No C. barti were seen here.

The young C. tigris have a distinct blue wash to the tail, but not so bright as I remember having seen in those of the Mojave Desert.

R. Zweifel

1934

Phyllodactylus bucolopithecus

Bahia San Carlos W of Guaymas Sonora

April 25

Tent found on the evening coming across
rocky outcrops

R. Zweifel

Uta taylori

Bahia San Carlos near (or of) Guaymas, Sonora

Apr. 25

Ground color brown, matching the lava rocks. ♂ with indefinite darker brown crossbands. Center of gular region pale blue, lateral region and edge of gular area orange. ♂ spotted dorsally, brilliant turquoise spots on the mid-dorsal region, yellow-brown on sides. Most of the dorsal and lateral surface of the tail are brilliant turquoise. Throat as in female, but blue darker and orange brighter. The side blotch is the same in both sexes, small and dark-blue to black.

These lizards were abundant on the neck of land separating Ensenada de los Tetas and Bahia San Carlos.

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Names used are for the most part those current in 1973. Where another name appears in the text, that name is indicated in parentheses.

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